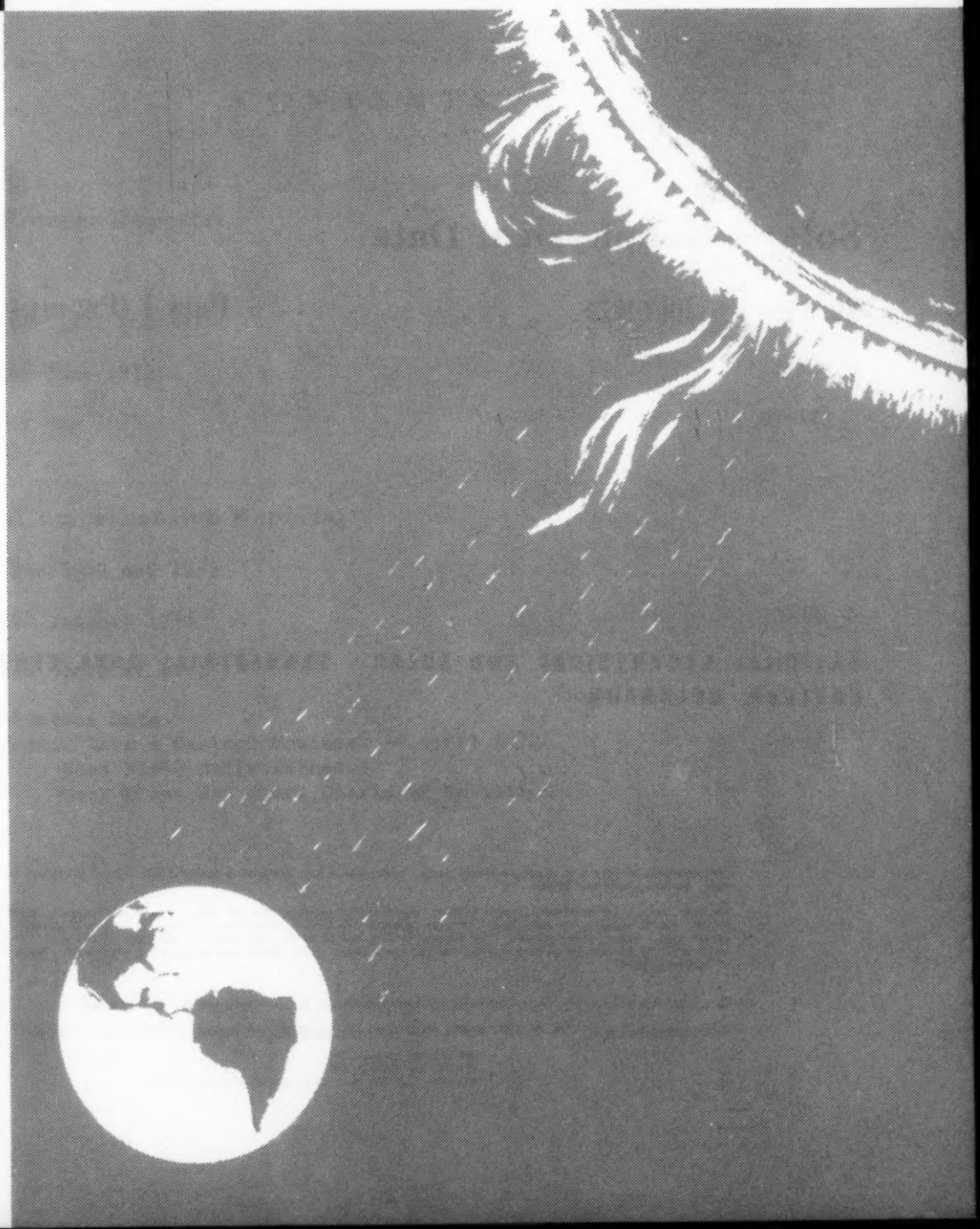
A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

SOLAR-GEOPHYSICAL DATA
(prompt reports)

U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service

JULY 1973



NUMBER 347-PART I
DATA FOR
JUNE 1973
MAY 1973

U.S. DEPARTMENT OF COMMERCE
Frederick B. Dent, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
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ENVIRONMENTAL DATA SERVICE
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Solar - Geophysical Data

NO. 347 JULY 1973

Part I (Prompt Reports)

DATA FOR
JUNE 1973
MAY 1973

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR - GEOPHYSICAL DATA

No. 347

Issued in two parts

Hope I. Leighton, Editor

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Solar - Terrestrial Data Services Division

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For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1971 "Solar-Geophysical Data" (Number 302).

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

JUNE 1973

JUN. 1973	TIME OF ISSUE UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT	
			NO.	TYPE INCLUDING FLARE ACTIVITY EXPECTED
01	0400			THREE QUIET; SOLNIL
02	0400			TWO QUIET; SOLNIL
03	0400			ONE QUIET; SOLNIL
04	0400			TWO QUIET; SOLNIL
05	0400			ONE QUIET; SOLNIL
06	0400			TWO QUIET; SOLNIL
07	0400		07557	MAGALERT 09/20; FOUR QUIET
08	0400		08558	MAGALERT 09/20; N16E69 ERUPTIVE; FOUR QUIET
09	0400		09559	MAGALERT 09/20; THREE QUIET; SOLNIL
10	0400		10560	MAGALERT 10/xx; N15E41 ERUPTIVE; TWO QUIET; SOLNIL
11	0400		11561	MAGALERT 11/xx; N15E28 ERUPTIVE; FOUR QUIET; SOLNIL
12	0400		12562	MAGALERT 12/xx; N16E14, N13E74 ERUPTIVE; FOUR QUIET; SOLNIL
13	0400		13563	MAGALERT 13/xx; N13E61 ERUPTIVE; FOUR QUIET; SOLNIL
14	0400		14564	MAGALERT 14/xx; N14E48 ERUPTIVE; THREE QUIET; SOLNIL
15	0400		15565	MAGALERT 15/xx; N13W85 ERUPTIVE; FOUR QUIET; SOLNIL
16	0400		16566	MAGALERT ENDS; SIX QUIET; SOLNIL
	1445	BOULDER SOFLARE 2B N13E11 16/1420Z		
17	0400		17567	SOLALERT; N12E08 ERUPTIVE; FOUR QUIET
18	0400		18568	SOLALERT; N07W12 ERUPTIVE; FIVE QUIET
19	0400			N12W17, S07E68 ERUPTIVE; SIX QUIET; SOLNIL
20	0400			N12W32, S08E52, S05E70 ERUPTIVE; TWO QUIET; SOLNIL
21	0400			S07E40, S03E55 ERUPTIVE; THREE QUIET; SOLNIL
22	0400			S07E25, S03E39 ERUPTIVE; S12E54 CAUTION; THREE QUIET; SOLNIL
23	0400			S07E09 CAUTION; THREE QUIET; SOLNIL
24	0400			S07W04 CAUTION; THREE QUIET; SOLNIL
25	0400			S08W14 ERUPTIVE; TWO QUIET; SOLNIL
26	0142	BOULDER TENFLARE 400 FLUX UNITS 26/0136Z		
	0215	TOYOKAWA TENFLARE 400 UNITS 26/0137Z 30 MIN 40 PERCENT WEST		
	0400			FOUR QUIET; SOLNIL
27	0400			S08W41 ERUPTIVE; TWO QUIET; SOLNIL
28	0400			S14W31 ERUPTIVE; TWO QUIET; SOLNIL
29	0400		29569	MAGALERT 29/xx
			29570	SOLALERT PIANO EAST LIMB; N12W44, N10E90 ERUPTIVE; FOUR QUIET
	0730	BOULDER MAGSTORM BEGINS 29/0730Z		
30	0400		30571	MAGALERT 30/xx
			30572	SOLALERT; N13E73, S06E66 ACTIVE; THREE QUIET

RELATIVE SUNSPOT NUMBERS

ZURICH, R_z

DAY	1972 FINAL JUL	AUG	SEP	OCT	NOV	DEC	1973 PROVISIONAL JAN	FEB	MAR	APR	MAY	JUN
1	68	103	127	78	75	40	45	7	40	65	24	8
2	74	93	99	65	67	31	53	17	38	79	46	8
3	82	89	79	73	49	28	55	22	35	93	64	16
4	91	85	78	73	30	24	60	21	32	93	77	14
5	104	93	88	67	23	21	72	41	22	75	92	7
6	95	85	81	57	19	18	83	32	32	75	68	16
7	91	65	73	54	8	24	66	34	38	76	82	37
8	82	60	71	52	7	29	60	53	58	71	52	34
9	75	59	59	34	14	42	70	60	53	68	30	28
10	64	47	46	30	12	53	55	61	67	65	25	35
11	62	31	43	34	30	61	52	59	69	62	26	60
12	74	30	36	23	33	64	32	80	92	46	18	58
13	84	55	32	15	30	67	35	83	79	41	7	52
14	80	40	37	8	27	69	15	85	78	37	7	51
15	61	42	45	14	21	71	10	74	73	35	25	46
16	53	57	53	34	25	66	11	54	64	29	33	41
17	59	59	44	38	32	71	27	36	52	16	34	34
18	55	57	38	28	28	58	42	28	44	15	41	18
19	66	57	33	44	42	49	47	18	34	32	42	38
20	56	60	47	60	58	54	60	30	23	42	32	46
21	66	62	60	69	65	67	62	31	20	45	52	75
22	69	85	69	78	69	59	62	25	30	67	53	61
23	65	79	65	85	79	57	60	33	37	72	47	48
24	62	82	77	94	77	48	58	38	29	73	57	48
25	62	71	82	105	65	43	39	48	27	67	64	47
26	77	79	79	111	57	39	27	37	23	67	46	43
27	82	93	77	118	55	34	8	36	32	67	51	38
28	86	118	67	104	61	26	14	36	43	60	32	39
29	102	147	78	89	47	25	7		46	54	23	51
30	108	141	75	98	43	29	16		58	42	21	33
31	115	137		93		37	13		56		17	
MEAN	76.5	76.8	64.0	61.3	41.6	45.3	42.2	42.1	45.4	57.6	41.5	37.6

1972 yearly mean = 68.9

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

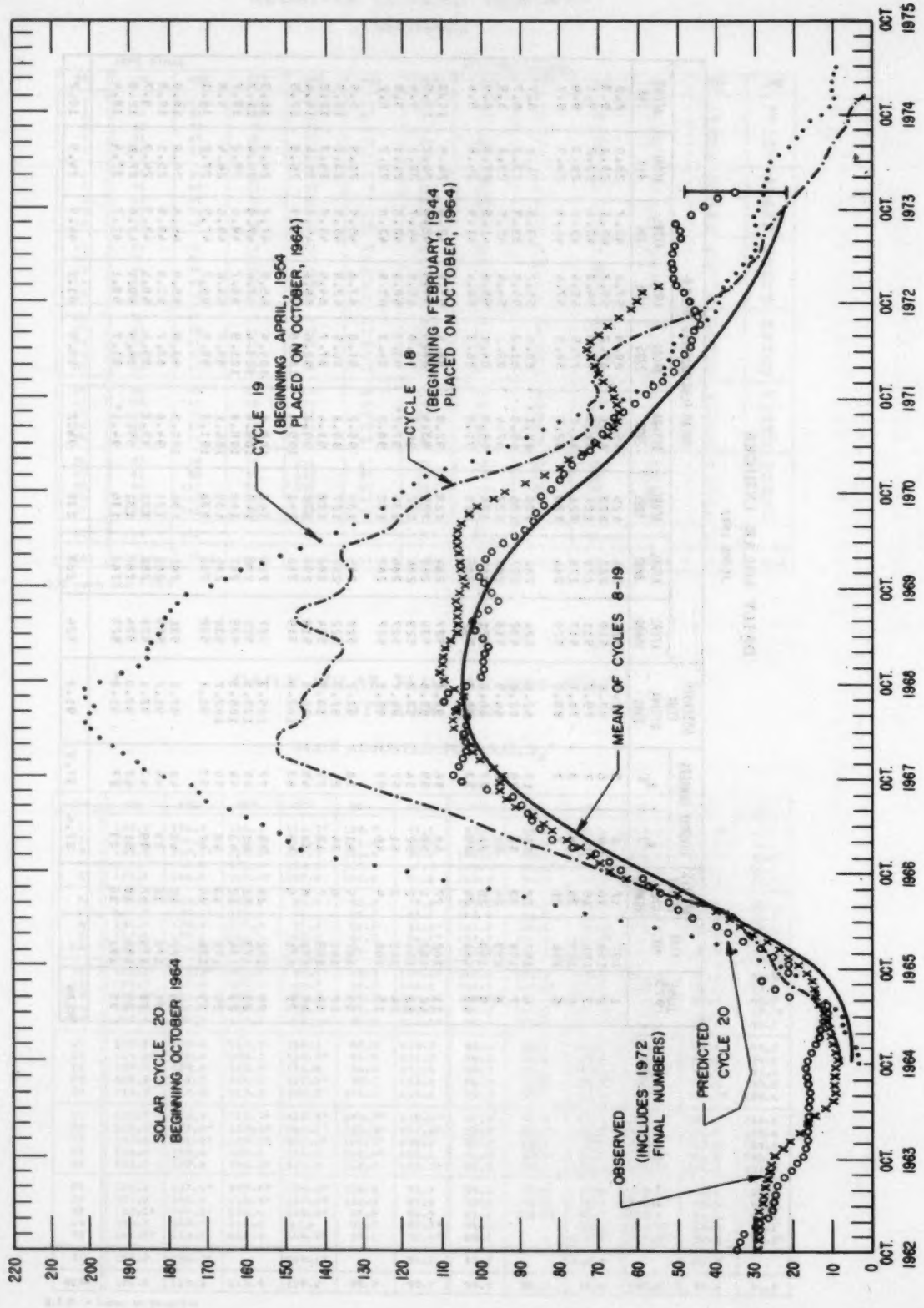
DAY	1972 JUL	AUG	SEP	OCT	NOV	DEC	1973 JAN	FEB	MAR	APR	MAY	JUN
1	133.0	156.3	144.3	114.7*	129.9	91.1	93.9	88.6	99.5	115.0	111.9*	85.2
2	137.0	150.4	139.7*	108.4*	121.8*	89.4	98.2	88.6	101.6*	118.1*	115.0*	83.1
3	139.9	147.1*	129.4*	107.3	113.9	85.2	105.1*	93.1	97.8*	129.4	117.3	81.5
4	146.7*	146.8	122.8	103.3	115.8	82.3	109.3*	94.1*	96.6	122.3	115.9*	81.8
5	150.2	146.5	117.8*	108.6	102.6	80.4	123.3	94.3	94.8	117.7	115.8*	82.5
6	146.1	143.4	119.2	98.4	93.2	77.8	115.8	95.3*	98.9	112.7*	109.7	85.1
7	143.2	139.8*	118.4	96.1	85.7	87.1	112.3	98.5	92.2	110.3	103.4	85.3
8	136.7	125.3	115.9	97.2	82.5	91.6*	103.2	100.5	98.9*	121.8	100.8	87.4
9	127.1	123.8	112.9	100.5	82.3	94.7*	103.7	100.9	104.7*	128.5	95.1	88.9
10	121.7	118.6	107.2	94.7	84.7	97.2*	103.8	102.1*	105.6*	115.5	90.9*	91.8
11	123.6*	113.3*	102.7	93.5*	88.3	105.1*	102.8	101.2	113.4	118.3*	87.8	92.9
12	119.3	107.6	100.6	94.7	88.7	108.9	103.5	104.6*	114.5	130.4*	86.8	93.6
13	119.9*	101.7	94.6	94.5	86.7	111.2*	108.9*	104.7*	118.9	99.4*	85.2	96.3
14	119.5	97.9	99.5	97.8	85.1	114.8*	96.2	105.6	114.8*	92.7*	89.3	97.7*
15	117.6	97.6	103.4	102.1*	86.5	116.1*	94.6	104.7	107.1*	89.5	90.1	98.2
16	115.1	100.6	103.1	106.2	89.6	110.2	93.6	98.7	106.9	85.8	89.5	95.2
17	114.6*	106.4	100.3	112.1*	91.5	111.9	94.2	94.2	101.5	82.1	91.4	89.8
18	108.9	109.6	102.6	111.8	94.6	112.4	95.3	98.7	94.9	80.9	95.4	91.4
19	108.9	116.2	106.2	117.1*	99.7	113.2	94.8	88.9	96.7*	82.8	99.4	99.2
20	110.9	117.9	113.2	122.2	109.4	111.4	98.3	89.4	91.8	86.4	104.7*	105.4
21	111.7	119.5	113.4*	132.8*	109.3*	113.4*	97.9	89.9	87.4	95.2	102.2	108.8
22	111.6	127.3*	119.4*	141.7	110.9*	107.9*	98.5	89.7	90.3	105.8	103.1	109.4
23	103.6	122.9*	125.2*	151.2*	115.3*	106.2	97.2	91.4	97.1	109.2	99.6	108.8
24	109.5	122.6	126.8	156.5	115.4*	101.1	96.9	93.6*	89.4	109.8*	104.5	106.1
25	112.4	127.8	126.3*	171.8	112.7	103.3*	95.6	97.2	90.8	109.2*	104.7	101.3
26	128.6	137.4*	122.5*	178.8*	108.6	97.7	95.3	95.6	88.6	110.8*	101.1	100.3
27	127.2	144.1	118.3*	167.6*	102.3	97.6	93.4	98.2	92.0	111.6*	99.9	94.8
28	133.3*	147.2*	116.4	159.1*	97.5	91.9	91.7	100.9*	94.2	112.6	94.1	95.2
29	139.1	143.3*	115.2	B.I.P.	92.7	92.8*	91.4		99.0	109.5*	93.3	95.1
30	141.2*	143.3	116.5	144.6*	95.1	92.0*	89.7		102.7	106.2*	98.8	94.1*
31	138.2	154.2*		148.1*		94.3	87.7		110.3		97.2	
MEAN	126.8	128.9	114.9	128.2	99.7	99.7	99.8	96.3	99.4	105.8	99.1	94.2

B.I.P. = burst in progress
* adjusted for burst

DAILY SOLAR INDICES

JUNE 1973

JUNE 1973	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFCRL 15400	AFCRL 8800	AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606	AFCRL 410	AFCRL 245
1	152	17	8	9	82.8	521	273	125	85.2	80.9	57.8	43.7	23.0	8.8
2	153	18	8	6	80.8	519	283	123	83.1	80.2	55.7	46.1	23.1	9.3
3	154	19	16	7	79.2	511	278	121	81.5	78.0	54.3	43.5	23.2	9.1
4	155	20	14	3	78.7	513	278	121	81.0	77.5	55.4	43.2	24.3	8.9
5	156	21	7	3	80.1	520	284	123	82.5	80.0	57.4	44.8	24.5	9.2
6	157	22	16	17	82.6	524	280	125	85.1	80.6	55.7	40.8	21.1	8.7
7	158	23	37	29	82.8	532	277	126	85.3	81.3	54.9	39.3	23.7	8.7
8	159	24	34	28	84.9	518	282	127	87.4	82.1	54.4	40.5	23.8	8.9
9	160	25	28	27	86.2	521	282	128	88.9	84.1	55.8	41.5	23.3	8.9
10	161	26	35	33	88.3	517	286	128	91.0	86.3	58.4	41.9	24.6	9.4
11	162	27	60	56	90.1	527	284	129	92.9	88.4	57.8	42.9	24.9	10.0
12	163	1	58	59	90.8	530	287	129	93.6	88.9	59.5	42.4	26.2	10.5
13	164	2	52	54	93.3	529	286	132	96.3	91.8	65.8	44.7	25.1	9.4
14	165	3	51	57	94.7*	527	286	134	97.7*	93.3	62.4	43.0	21.1	9.6
15	166	4	46	52	95.2	527	287	132	98.2	94.3	63.5	43.0	20.2	8.2
16	167	5	41	38	92.2	522	285	130	95.2	91.0	67.8	45.5	21.9	9.5
17	168	6	34	24	87.0	522	282	127	89.8	86.5	62.9	45.6	23.2	10.5
18	169	7	18	23	88.5	524	280	128	91.4	87.7	64.6	45.5	24.3	10.2
19	170	8	38	45	96.0	519	290	136	99.2	93.6	65.6	45.8	25.4	14.4
20	171	9	46	63	102.0	519	288	141	105.4	100.8	66.5	49.3	26.0	12.5
21	172	10	75	77	105.3	527	284	140	108.8	104.4	65.5	47.2	24.9	10.9
22	173	11	61	65	105.9	525	290	145	109.4	103.4	67.0	47.9	24.4	11.2
23	174	12	48	54	105.3	525	287	142	108.8	101.9	66.7	49.6	27.2	10.7
24	175	13	48	50	102.7	530	285	139	106.1	99.7	64.6	49.6	26.4	9.8
25	176	14	47	53	98.1	532	283	138	101.3	95.5	64.7	47.5	27.8	14.1
26	177	15	43	48	97.0	531	281	136	100.3	93.9	65.9	46.5	26.9	10.0
27	178	16	38	44	91.7	529	280	131	94.8	88.2	61.9	45.5	25.1	10.0
28	179	17	39	43	92.1	528	280	130	95.2	89.4	60.1	43.3	24.9	9.7
29	180	18	51	42	92.0	524	280	131	95.1	88.8	60.1	43.6	27.6	12.9
30	181	19	33	27	91.0*	523	283	136	94.1*	91.7	60.1	42.7	27.4	10.4
MEAN			37.6	37.9	91.2	524	283	131	94.2	89.5	61.1	44.5	24.5	10.2



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										9.6	10.2	11.0
1965	11.7	12.0	12.5	13.6	14.6	15.0	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.7	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.8	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.8	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.8	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.8	105.3	103.8	101.0	97.2	93.9	89.4	84.1
1971	80.4	77.8	74.4	70.9	68.1	66.7	65.4	64.6	65.8	66.2	66.8	69.4
1972	70.8	71.2	72.4	73.4	72.9	70.5	68.1	65.4	62.0	60.3	58.5	54.8
1973	53.7 (2)	52.0 (5)	50.2 (6)	48.2 (8)	46.6 (9)	44.8 (10)	43.4 (10)	42.5 (12)	41.2 (13)	39.2 (13)	37.0 (13)	35.2 (13)
1974	33.9 (13)	32.8 (13)	31.9 (13)	31.1 (14)	30.3 (15)	29.2 (15)	27.8 (15)	26.1 (14)	24.2 (14)	22.4 (14)	20.6 (14)	19.3 (14)
1975	18.2 (14)	16.9 (13)										

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1972.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 19. Tests indicate that earlier cycles are from a different statistical population. From July 1968 - February 1970 a regression analysis based on cycles 1 through 19 was used because it had not then been proven that two populations exist.

SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

JUNE 1973

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JUN	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. S	
CAPF	10	0829E	1000D		N21	E85	.996	12387	16.7	91D	1N		C	0832	1.24				H
ATHN	10	0857E	1805D	0857U	N10	E90	1.000		17.1	68D	1B	3	C						F
ATHN	10			0950U							1N								
WEND	12	0612	0658D		N13	E72	.953	12387	17.7	46D	1N		P		3.09				
ARCE	12	0637E	0655		N13	E70	.942		17.5	18D	SN		C	0637	.62				
WEND	13	0539E	0634D		N13	E59	.863	12387	17.7	55D	1N		V		3.09				
ATHN	15	0514E	0547	0516	S12	W10	.262		14.5	33D	SF	3	V		.66				F
WEND	15	0530E	0555		S15	W08	.307	12382	14.6	25D	1N		V		3.09				
MCMA	15	1241E	1248D		S14	W09	.300	12382	14.9	7D	SN		P	1247	.21	.20			E
WEND	15	1242E	1320		S15	W14	.361	12382	14.5	38D	1F		V		3.09				
RAMY	15	1401	1457	1414	N15	W32	.567		13.2	56	1B	4	C		3.90				FDE
ATHN	15	1402E	1412D	1412D	N15	W34	.593		13.8	10D	1B	3	V		3.96				U F
MCMA	15	1404	1509		N18	W32	.584	12379	13.2	65	1B		P	1413	1.80	2.20			FL
TEHR	15	1408E	1456	1408U	N15	W36	.618		12.9	48D	1B	3	V		3.96				F U
TEHR	15			1415							1B								
HERS	15	1425E	1445D	1425E	N17	W33	.591		13.1	20D	SB		P	1425	1.55	1.90	.15		BE
CAPF	15	1442E	1509		N19	W35	.626	12379	13.0	27D	1N		P	1447	3.09	3.75			
RAMY	16	1403	1519	1407	N13	E11	.278		17.4	76	SN	3	C		.28				DE
RAMY	16			1425	N13	E11	.278		17.4	76	2B	3	C		10.30				DE
TEHR	16	1417	1508	1425	N10	E10	.231		17.3	51	1B	3	C		4.85				U H
ATHN	16	1418	1512	1427	N13	E12	.289		17.5	54	2B	3	C		7.26				U F
WEND	16	1420	1533	1438	N11	E13	.280	12387	17.6	73	2N		P		12.38				
MCMA	16	1516E	1638D		N15	E10	.293	12387	17.4	82D	SN		P	1546	1.55	1.50			BF
RAMY	16	1534	1618	1540	N15	E12	.313		17.5	44	1N	4	C		2.32				F
WEND	16	1534	1646D	1543	N13	E12	.289	12387	17.5	72D	1F		P		5.16				
ATHN	16	1537	1616	1543	N14	E11	.290		17.5	39	1N	3	C		2.31				F
MONT	20	1028	1111	1034	S02	E65	.907		25.3	43	SN		C	1034	.52				D
UPIC	20	1033E	1105U		S02	E63	.892	12394	25.2	32U	1N		P	1033	1.05				K
MANI	26	0139E	0300D	0142	S09	W27	.488	12397	24.0	85D	1N	2		0142	1.66	2.12			F
TEHR	26	0157E	0158	0158U	S08	W28	.496		24.0	1D	1N	2	V		2.32				F
TEHR	26	0216E	0259	0218U	S08	W28	.496		24.0	43D	SN	1	C		1.09				F
RAMY	26	1539E	1546D	1544U	S12	W09	.290		26.8	7D	SF	3	C		.65				DE
WEND	26	1541	1615	1548	S13	W05	.277	12402	26.3	34	1N		P		5.16				B
MCMA	26	1556E	1556D		S12	W05	.261		26.8		SF		P	1556	.31	.30			E
ATHN	27	0530	0602	0538	S14	W20	.434		25.7	32	SN	3	V		.99				F
TEHR	27	0533	0601	0545	S11	W22	.433		25.6	28	SB	4	V		.55				F Z
WEND	27	0536E	0612		S11	W23	.446	12402	25.5	36D	1N		P		4.13				
UPIC	27	0538	0603	0546	S12	W22	.441	12402	25.6	25	1B		P	0546	2.10				
RAMY	28	1522	1542	1529	S10	W60	.875		24.1	20	SF	4	C		.46				DE
MCMA	28	1525E	1555D		S07	W63	.896	12397	23.9	30D	SN		P	1525	.26	.60			D
WEND	28	1526E	1544		S07	W62	.888	12397	24.0	18D	1N		P		3.09				
ATHN	28	1530E	1544	1532	S08	W63	.896		23.9	14D	SN	4	V		.66				DE
WEND	28	1746	1802D		S04	W67	.922	12397	23.7	16D	1N		V		3.09				
PALE	29	1946	2008D	1950U	N16	E79	.981		5.7	22D	1B	2	C		1.63				UDE
RAMY	29	1947	2010	1950U	N11	E80	.984		5.8	23	1B	2	V		.99				U
RAMY	30	1514	1548	1518	N15	E69	.934		5.8	34	SB	2	C		.84				DE
ATHN	30	1515	1547	1517	N13	E70	.939		5.9	32	SB	3	C		.99				F
MCMA	30	1518E	1600D		N13	E70	.939	12417	5.9	42D	1B		V						D
WEND	30	1519	1543		N13	E68	.927	12417	5.7	24	2F		P		6.19				

"Remarks":
A = Eruptive prominence, base at >90°
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No spots visible in the neighborhood.
H = Flare with high velocity dark surge.
I = Very extensive active region.
J = Plage with flare shows marked intensity variations.
K = Several intensity maxima.
L = Filaments show effects of sudden activation.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H or K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line.
S = Brightening follows disappearance of filament (same position).
T = Region active all day.
U = Close and somewhat parallel bright filaments (|| or Y shape).
V = Occurrence of an explosive phase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα emission.
Y = Onset of a system of loop-type prominences.
Z = Major sunspot umbra covered by flare.

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

SOLAR FLARES

Date, time (UT) and coordinates of Subflares not included in preceding table.

JUNE 1973

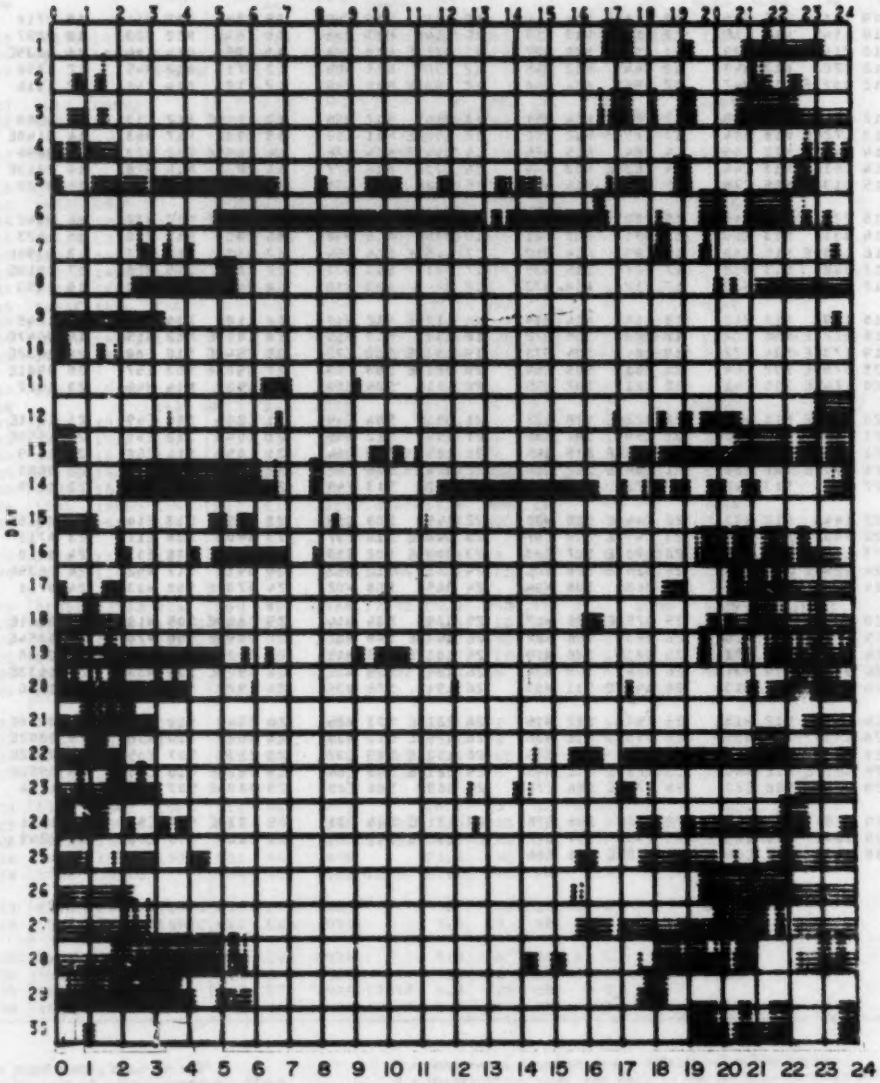
01 0029	S12 W81	01 1250	N15 W68	01 1610E	N15 W70	02 0840E	N18 W80	02 0840	N21 W83	02 0841	N16 W84
02 1254	N22 W83	02 1254E	N16 W84	02 1255	N16 W86	02 1255	N16 W86	02 1255	N17 W80	02 2310E	N17 W86
04 0840E	N13 E66	04 0842	N16 E66	04 0842	N13 E64	05 1200E	N14 E58	06 0127E	N13 E43	06 2253E	N15 E86
07 1116	N15 E80	07 1116	N15 E80	07 1232	S18 W33	07 1235	S31 W21	07 1235	S18 W31	07 1419	N15 E80
07 1420	N16 E78	07 2253E	N16 E86	07 2257E	N14 E16	08 1450	N16 E61	08 1842	S15 E60	09 0027	N20 E57
09 0246	N14 E03	09 1816	N16 E46	09 1816E	N16 E46	09 1818	N15 E45	09 2245	N12 W11	10 0712	S18 E69
10 1145	N16 E15	10 1145	N16 E15	10 1145	N13 E13	10 1646	N13 W22	10 1647	N12 W23	10 2057	N15 E31
10 2058E	N13 E31	10 2149E	N12 E29	11 0010	N12 W27	11 0711E	N18 E88	11 0751	N14 E86	11 0835E	N13 E86
11 0836	N14 E86	12 0202	N13 W43	12 0449	N12 W45	12 0505	N15 W09	12 0717	N12 W45	12 0750	N12 E69
12 0821	N14 W46	12 0821E	N12 W47	12 0955	N14 W48	12 1000E	N12 W49	12 1122	N14 E68	12 1916	N14 W52
12 1948E	N11 E63	12 2211E	N11 E60	12 2227E	N14 W51	13 0649	N17 W01	13 1245E	N12 E53	13 1500	N12 E53
13 1717	N12 E53	13 1724E	N18 W04	13 1756	N12 E58	13 1809E	N11 E50	13 1932	N17 W63	14 0140E	N14 W69
14 0340E	N12 W71	14 0442E	N12 E45	14 0640	N15 W75	14 0640E	N14 W76	14 0855E	N12 W72	14 0856	N14 W76
14 0905	N15 E49	14 1614	N13 E46	14 1639E	N13 E44	14 1916	N16 W77	14 2029	N16 W78	14 2213E	N16 W78
15 0030E	N10 E32	15 0134	N15 E78	15 0141E	N16 W78	15 0424	N14 E38	15 0427E	N14 E38	15 0722	N12 W90
15 2140	N18 W90	15 2201	S14 W15	15 2205E	S14 W16	15 2233E	N21 W36	15 2235E	N17 W37	16 0042	N13 E27
16 0046	N13 E27	16 0810	N13 E19	16 0812	N08 E21	16 0856	N18 W90	16 0903	N17 W90	16 1423	N03 E03
16 1814E	N14 E12	16 1854E	N15 E10	16 1857	N14 E12	17 0154E	S04 E54	17 0324	N12 E07	17 0356E	S12 E35
17 0545	N13 E06	17 0809	S13 W32	17 0810	S15 W35	17 0810	S13 W33	17 0815	S15 W28	17 0819E	S16 W35
17 0820E	S14 W30	17 1125	S18 W30	17 1126	S18 W32	18 0449	N13 W10	18 0452	N16 W12	18 0453	N12 W10
18 0454E	N12 W10	18 1102	N12 W12	18 1102	N14 W14	18 1105E	N12 W10	18 1105	N14 W11	18 1245	S02 E90
18 1723E	S18 E82	18 1723E	N08 E72	18 1723	S08 E72	18 1811	N13 W15	18 1815E	N12 W15	19 0847E	N15 W22
19 0818	S01 E79	19 1738E	S04 E77	19 1819	S04 E73	19 1830E	S02 E72	20 0543E	S10 E80	20 0632E	S05 E70
20 0750	S02 E66	20 0759E	S02 E64	20 0815	S05 E64	20 0819E	S03 E69	20 0900E	S03 E67	20 0901E	S02 E63
20 1237	S01 E62	20 1745E	S05 E61	20 1811	S02 E55	20 1814	S06 E59	20 1922	N14 W46	20 1922	N14 W46
20 1950E	N14 W45	20 1952E	N11 W46	21 0226E	S18 E73	21 0810	S04 E49	21 1206	S06 E49	21 1211E	S06 E47
21 1419	S14 E60	21 1420	S12 E60	21 1544	S07 E30	21 1546	S12 E55	21 1546	S12 E55	21 1550E	S08 E34
21 1550E	S13 E64	21 1849	S16 E64	21 1850E	S15 E65	21 1850	S13 E64	21 1853	S11 E60	21 1959	S08 E34
21 1959	S08 E30	21 2000E	S07 E30	21 2348E	S12 E54	22 0208	S06 E42	22 0209E	S05 E41	22 0600	S06 E25
22 0711	S13 E46	22 0711	S13 E46	22 0728	S13 E46	22 0728	S13 E49	22 1032E	S07 E24	22 1230	S07 E18
22 1233E	S07 E18	22 1446	S12 W33	22 1448E	S10 W30	22 1452	S09 E15	22 1858	S13 E14	22 2015E	S10 W35
23 0404	S05 E10	23 0407E	S07 E10	23 0407E	S10 E07	23 0407E	S10 E07	23 0408	S08 E11	23 0712	S02 E23
23 1042	S06 E08	23 1046E	S07 E10	23 1701E	S07 E03	23 2035E	S02 E13	23 2335E	S08 E01	24 0218	S08 E02
24 0222E	S08 E00	24 0253E	S08 E00	24 0255E	S08 W01	24 0510	S12 W52	24 0514	S12 W52	24 0635E	S07 W04
24 0635E	S07 W04	24 0647	S08 W04	24 0651	S08 W04	24 0655	S08 W02	24 0700E	S08 W03	24 0751	S08 W04
24 1222	S15 E23	25 0753	S05 W18	25 0755E	S06 W17	25 0756	S04 W14	25 0800E	S05 W18	25 0801E	S06 W17
25 1748	S07 W24	25 1743E	S07 W20	26 0038	S08 W27	26 0043E	S09 W27	26 0054E	S06 W24	26 0054E	S06 W24
26 0756	S15 W80	26 0759	S15 E01	26 0825	S06 W19	26 0827E	S06 W19	26 0828	S04 W17	26 0830	S04 W18
26 0839	S06 W30	26 0839	S09 W31	26 0841	S09 W31	26 0841	S09 W31	26 0905E	S09 W33	26 1133E	S09 W31
26 1134E	S08 W32	26 1456	S11 W13	26 1457E	S11 W13	26 1515	S08 W35	26 1520	S11 W33	26 1636	S13 W14
26 1639	S14 W15	26 1640	S12 W15	26 1852	S12 W16	26 2220E	S03 W26	26 2340	S12 W17	28 0808E	S08 W53
28 0748E	S07 E86	28 0755	S13 W37	28 0756	S11 W36	28 0757E	S13 W38	28 0800	S13 W36	28 0802E	S13 W37
28 0807E	S11 W37	28 0810E	S13 W37	28 1522	S08 E35	28 1530E	S09 E37	28 2139	S07 E65	28 2322E	S13 W43
28 2322E	S13 W43	29 0217E	S12 W05	29 0217E	S12 W45	29 0217E	S08 E84	29 0324E	N10 E90	29 0552E	S07 E76
29 0555	S07 E80	29 0755	S08 E80	29 0759E	S06 E76	29 0802	S08 E80	29 0804E	S07 E75	29 1154	N12 E88
29 1156	N11 E85	29 1305	S07 E75	29 1307	S08 E78	29 1310E	S08 E73	29 1333E	N12 E83	29 1511	S07 E73
29 1513	S10 E74	29 1641	N13 E85	29 1908	S07 E72	29 1915E	S07 E69	29 2131	S05 E68	29 2249	S09 E68
30 0042E	S05 E68	30 0855	S07 E66	30 2202E	N16 E66						

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JUNE 1973

HOUR-UT



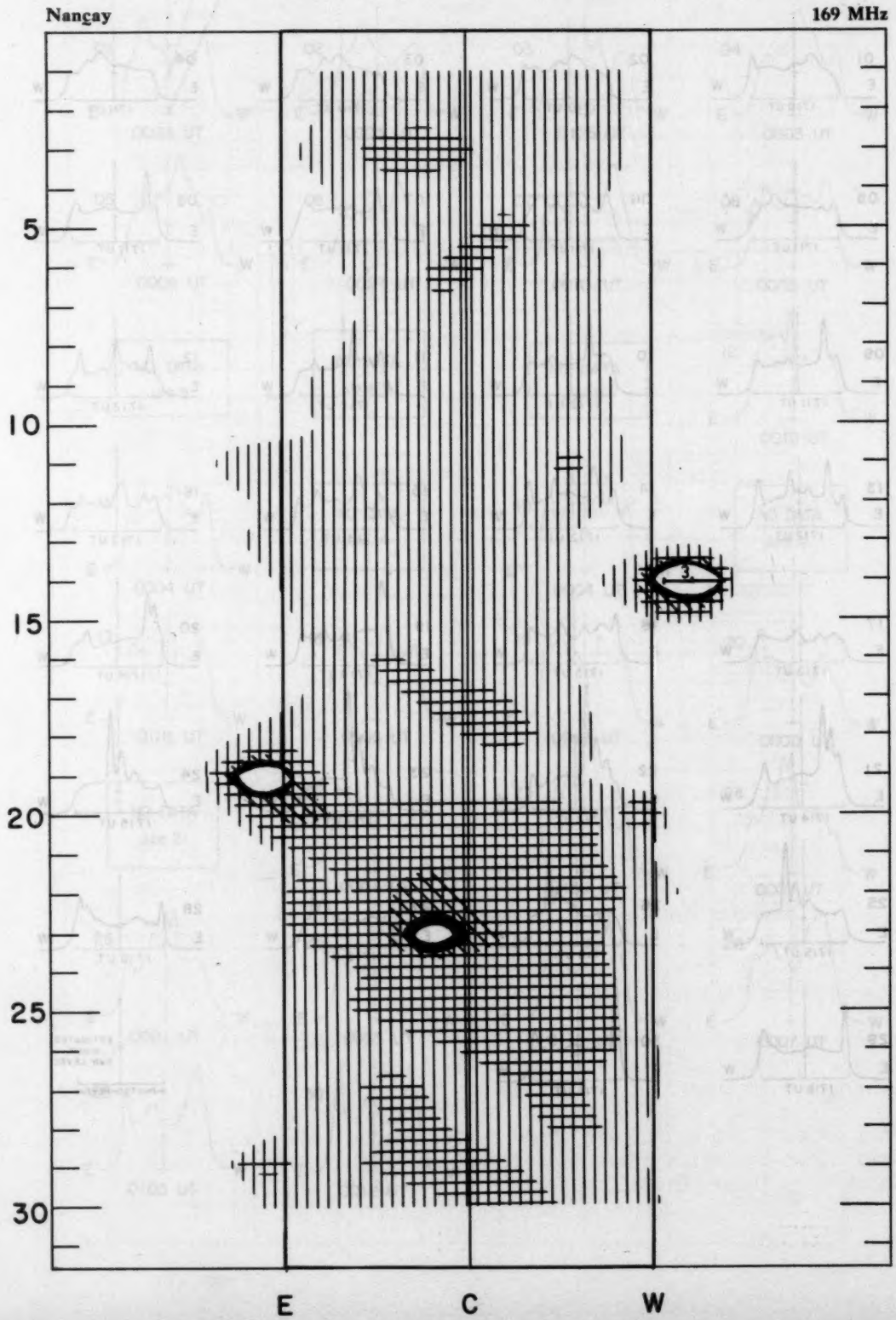
Observatories included in total patrol:

Arcetri	Capri-F (German)	Manila	Monte Mario	Tehran
Athenes	Herstmonceux	McMath-Hulbert	Palehua	Upice
Bucharest	Istanboul	Mitaka	Ramey	Wendelstein

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

JUNE 1973



14
Jun 73

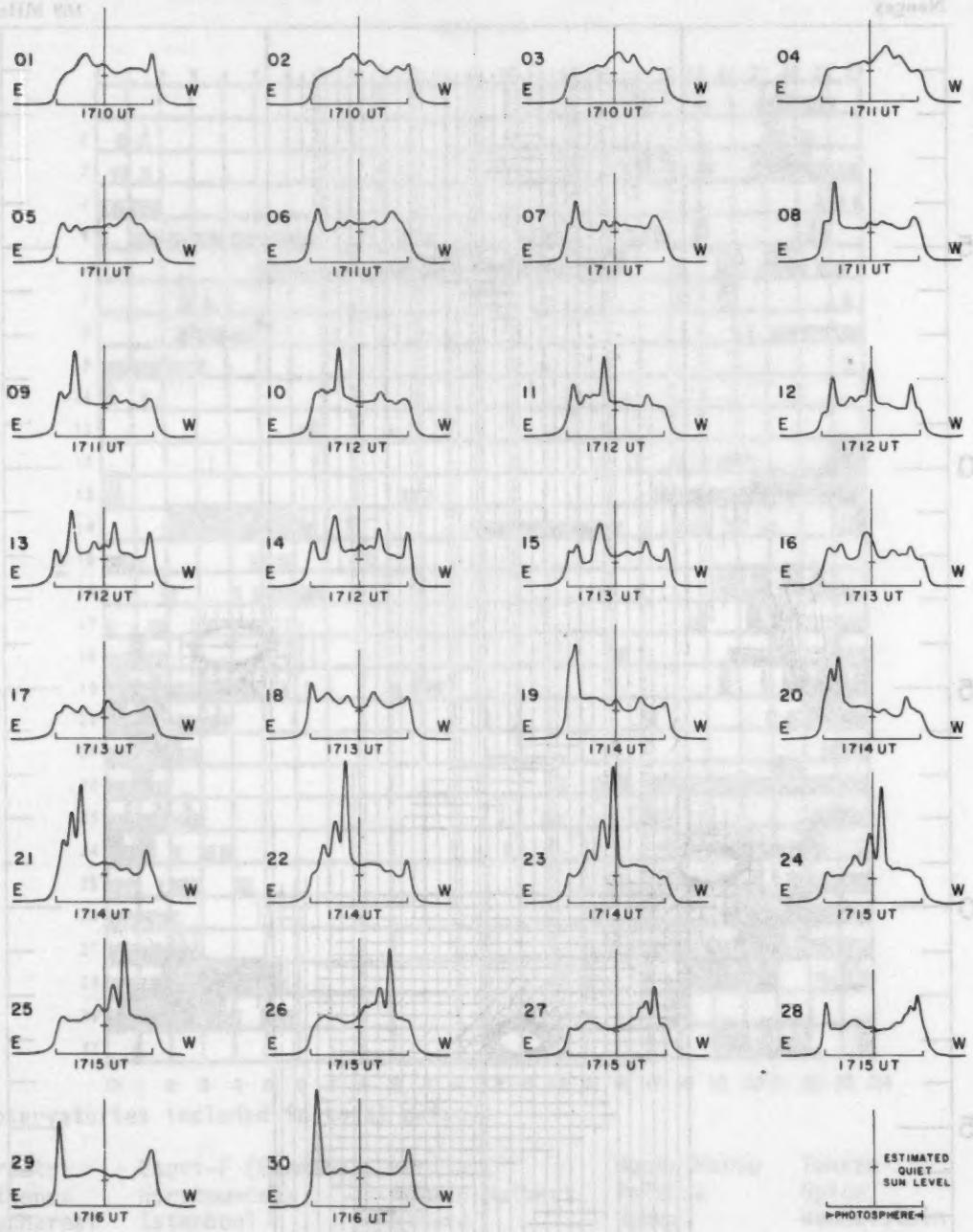
EAST - WEST SOLAR SCANS

June 1973

10.7 cm

Fan-Beam with 1.5 minutes of arc
E-W Resolution

ALGONQUIN RADIO OBSERVATORY
CANADA



EAST-WEST SOLAR SCANS

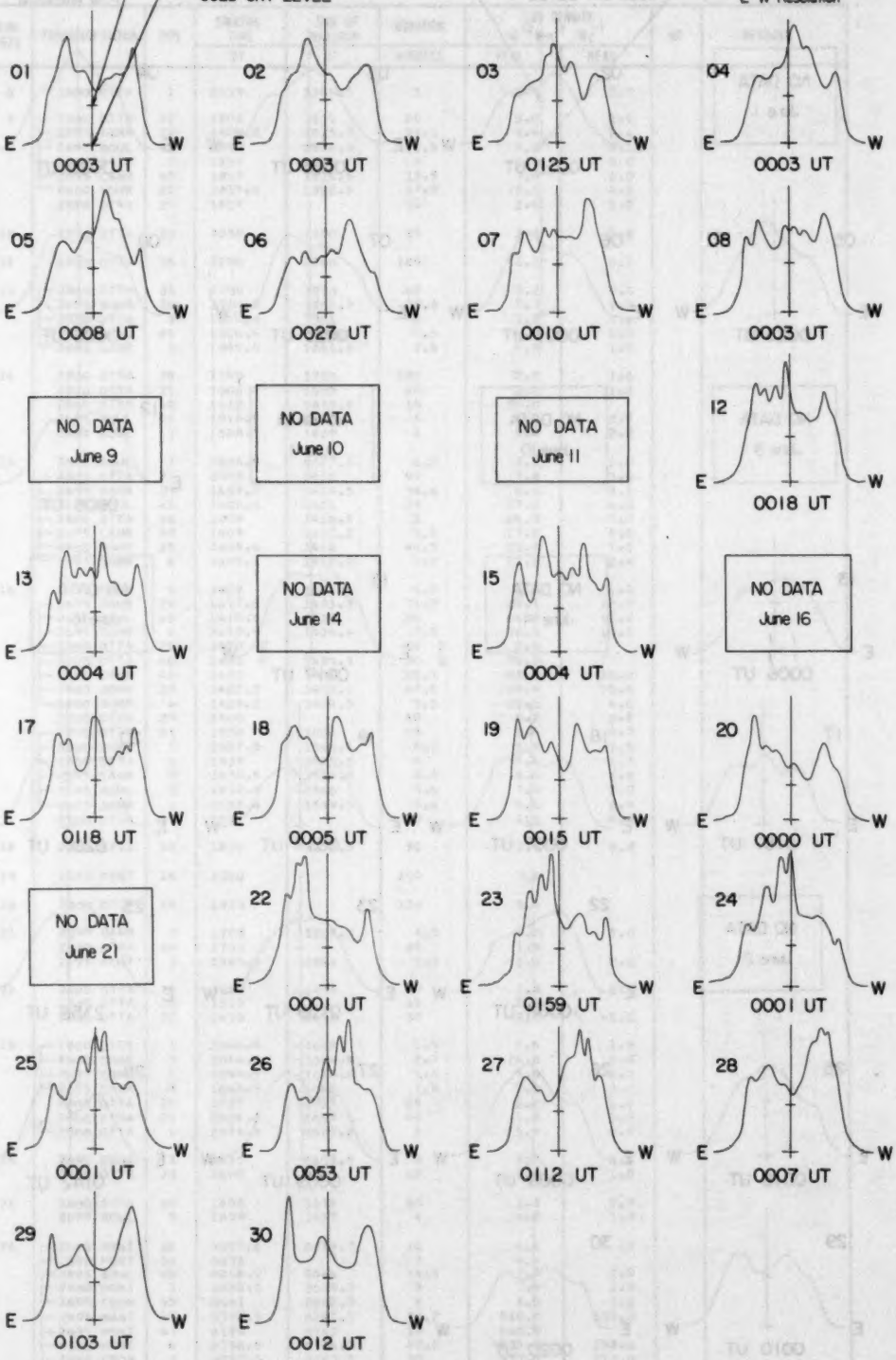
JUNE 1973

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

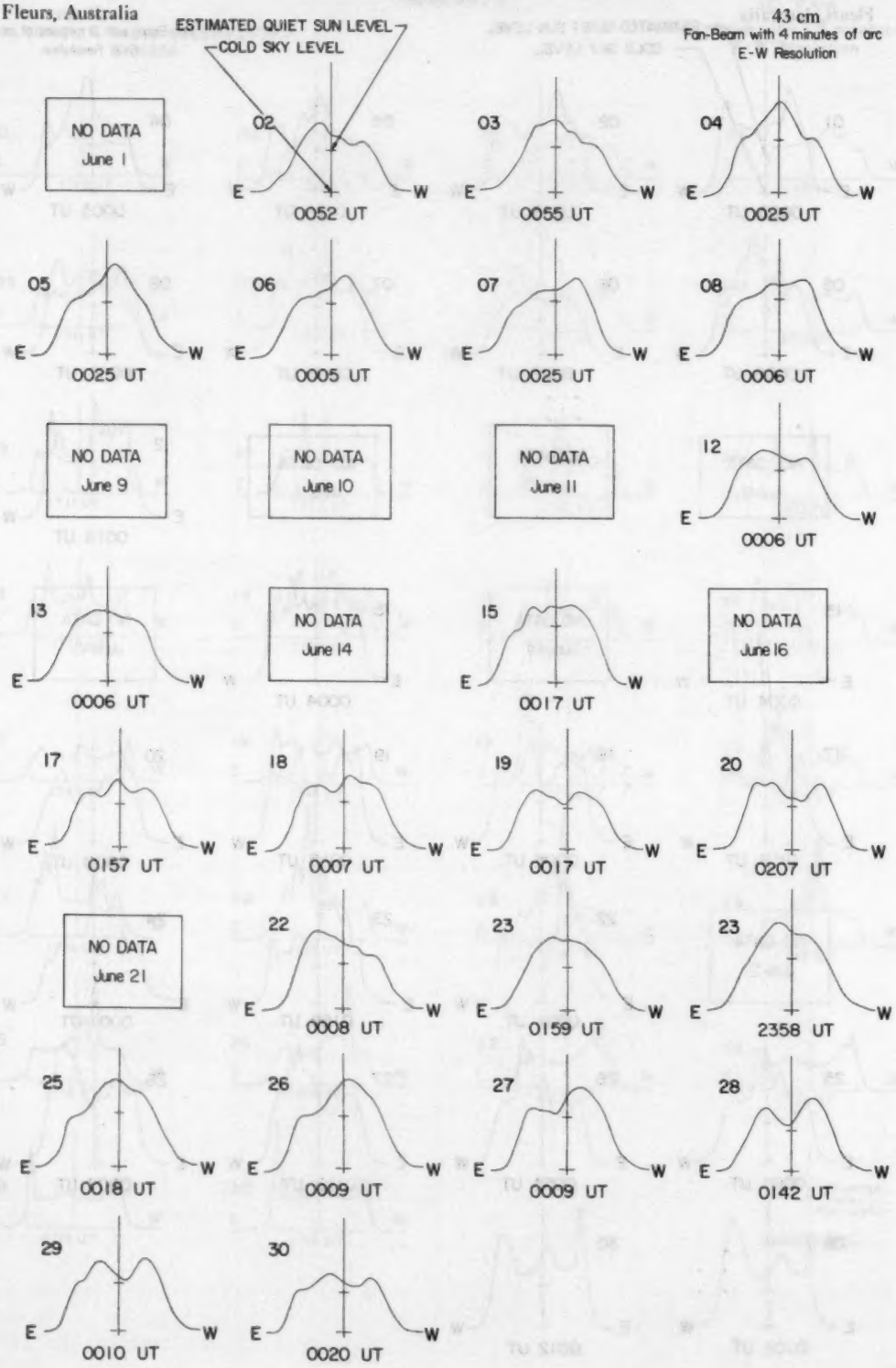


16
Jun 73

EAST-WEST SOLAR SCANS

JUNE 1973

Fleurs, Australia



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JUNE 1973

JUN. 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
8	2800 OTTA	1	2303	2304.5	3	1.4	0.7		
9	2800 OTTA	21	1806	1811	50	3.0	1.5		
	2695 SGMR	22	1808.8	1815.7	33.1	9.4	2.4		
	2695 BOUL	45	1809	1816.5	11.5	8.0	3.0		
	2800 OTTA	1	1814	1816	5	6.6	3.0		
	2695 CANR	45	1815	1816.5	13.5	7.0	2.0		
	8800 SGMR	22	1815.1	1822.5	17.9	18.1	4.5		
	2800 OTTA	29	1819		10	2.0	1.0		
10	2800 OTTA	20	2055	2100	35	1.6	0.8		
12	2800 OTTA	20	2200	2340	180	2.2	1.1		
13	2800 OTTA	21	1750	1810	60	3.2	1.6		
	2695 SGMR	20	1754.2	1805.9	29.8	5.7	1.5		
	2800 OTTA	1	1804.5	1806	3	3.2	1.6		
	2695 BOUL	45	1804.5	1806.5	7.5	4.0	1.0		
	2695 CANR	3	1805.5	1806.5	3.5	4.0	1.0		
14	2800 OTTA	20	1100	1330	200	2.0	1.0		
	2800 OTTA	21	1608	1635	60	2.4	1.2		
	2800 OTTA	40	1612	1619.8	18	20.0			
	2695 BOUL	45	1816.5	1820	5	6.0	2.0		
	2695 BOUL	3	1828.5	1829	2	5.0	2.0		
15	2695 BOUL	3	0026.5	0027.5	1.5	3.0	1.0		
	2800 OTTA	21	1405	1420	95	7.8	3.4		
	2695 SGMR	23	1407.1	1415.5	38.6	6.4	2.1		
	2695 BOUL	45	1408.5	1411	25	17.0	4.0		
	2800 OTTA	46	1409	1410.5	2	14.0	7.0		
	2695 CANR	45	1409	1411.5	3.5	17.0	5.0		
	8800 SGMR	20	1409.6	1416	42.5	22.0	7.0		
	2695 SGMR	4	1409.1	1410.5	1.8	12.5	2.4		
16	2695 CANR	3	1402	1405.5	6.5	3.0	1.0		
	2695 SGMR	23	1417.6	1431.3	71.9	25.1	12.0		
	2695 BOUL	45	1419.5	1425	34	64.0	12.0		
	2695 SGMR	4	1419.9	1424.4	7.5	72.0	15.0		
	2800 OTTA	25	1420 E		50 D	2.6			
	2800 OTTA	46	1420 E	1424.3	20 D	75.0			
	2695 CANR	45	1420	1424	51.5	83.0	20.0		
	8800 SGMR	23	1422.2	1433.1	47.5	28.9	13.0		
	8800 SGMR	4	1423.1	1424.5	3.1	21.1	4.0		
	2800 OTTA	29	1440		40	8.2	3.8		
	2800 OTTA	21	1530	1600	55	1.4	0.7		
	8800 SGMR	1	1537.8	1544.4	8.2	3.9	1.5		
	2800 OTTA	1	1538	1539.3	4	3.4	1.7		
	2695 CANR	3	1538.5	1539.5	8.5	8.0	3.0		
	2695 BOUL	3	1538.5	1540	7.5	7.0	2.0		
	2695 SGMR	1	1538.4	1539.3	5.6	5.6	2.0		
	2800 OTTA	29	1542		10	1.8	0.9		
18	2800 OTTA	20	1810	1812.5	30	1.8	0.9		
19	2695 PENT	24	2200		210	7.4			
20	2800 OTTA	24	1830		120	2.4			
21	2695 CANR	3	1208	1208.5	1.5	4.0	1.0		
	2800 OTTA	24	1750		80	1.8			
	2695 PENT	1	2343.5	2344	1.2	1.6	0.8		
22	2800 OTTA	20	1220	1235	40	1.8	0.9		
	2800 OTTA	26	1310		45	3.6			
	2800 OTTA	32	1410	1438	50	-2.0	-1.0		
23	2800 OTTA	1	1044.5	1045	1.5	5.6	1.9		
	8800 SGMR	3	1044.5	1044.8	2.7	24.8	6.0		
	2695 SGMR	1	1044.5	1044.8	1.6	5.9	2.0		
	2695 CANR	8	1045.5	1046	1.5	7.0	3.0		
	2800 OTTA	20	1725	1755	65	2.2	1.0		
	2800 OTTA	21	2024.8	2037	40	1.8	0.9		
	2800 OTTA	1	2024.8	2025.2	2	1.8	0.9		
24	2695 CRON	3	0650	0655.3	9	9.0	3.0		
	2800 OTTA	20	2000	2005	40	1.6	1.0		
25	2800 OTTA	20	1450	1515	50	1.8	0.9		
	2695 BOUL	3	1658	1659	4	4.0	1.0		
26	2695 MANI	20	0037.6	0039.7	10	4.6	.9		
	2695 PENT	24	0038		7	4.4			
	2695 BOUL	45	0038.5	0044	14.5	7.0	2.0		
	8800 MANI	1	0038.2	0039.7	8	7.4	1.9		
	2695 CRON	45	0041	0042.5	6	6.0	1.0		
	2695 MANI	47	0132.3	0142.1	38.2	510.0	235.0		
	2695 PENT	47	0136	0142	17 D	540.0			
	8800 MANI	4	0136.3	0144.2	40.2	275.0	158.0		
	2695 CRON	3	0137.5	0142.5	32	337.0	119.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
JUNE 1973

JUN. 1973	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA	22	1510	1555	75	2.8	1.6		
	2800	OTTA	20	1820	1840	60	1.2	0.6		
27	2695	CRON	45	0537	0539.5	9	11.0	2.0		
	8800	MANI	4	0537.4U	0538.8	3.2U	17.6U	5.0U		
	2695	MANI	2	0537.4U	0538.8	3.2U	9.5U	1.8U		
	2695	BOUL	3	1545.5	1547	3	3.0	1.0		
28	2800	OTTA	2	1523.9	1525.9	3.1	2.8	1.5		
	2695	BOUL	3	1523	1526	4.5	3.0	1.0		
	2800	OTTA	29	1527		15	1.2	0.6		
	2695	CANR	8	1858.5	1900	4.5	16.0	5.0		
	8800	SGMR	3	1858.9	1859.8	4.6	12.6	5.0		
	2800	OTTA	21	1859	1910	200	3.2	1.6		
	2800	OTTA	4	1859	1900	4	14.0	5.0		
	2695	BOUL	3	1859	1900.5	4.5	24.0	6.0		
	2695	SGMR	3	1859	1859.8	5.5	11.3	4.6		
	2695	PENT	2	2324	2326.5	6	2.8	1.2		
	2695	BOUL	3	2324.5	2327.5	6	4.0	1.0		
29	2695	PENT		0147	0148.5	6 D	4.2			
	2695	CRON	3	0147.5	0148	1.5	4.0	1.0		
	2695	CRON	3	0151.5	0153.5	7	11.0	3.0		
	8800	MANI	3	0154.2E	0154.2U	3.6D	11.7U	5.9D		
	2695	MANI	3	0154.2E	0154.2U	3.6D	11.8U	4.7D		
	2695	CRON	8	0323	0324	2	7.0	3.0		
	2800	OTTA	2	1515.7	1516.3	2	9.4	3.2		
	2695	SGMR	46	1515.8	1516.4	3.8	9.9	2.3		
	2695	SGMR	46		1517.2		10.6			
	2695	CANR	45	1516	1518	12	15.0	4.0		
	2695	BOUL	45	1516	1518	3.5	14.0	4.0		
	8800	SGMR	2	1516.1	1516.4	3.9	5.0	1.1		
30	8800	SGMR	45		1517.5		38.1			
29	2800	OTTA	2	1908.8	1909.1	3	5.8	1.5		
	2695	CANR	45	1908	1909.5	4	11.0	4.0		
	8800	SGMR	4	1908.4	1909.4	1.5	10.4	4.2		
	2695	SGMR	2	1908.7	1909.1	1.9	6.2	2.5		
	2695	BOUL	3	1909	1909.5	2.5	6.0	2.0		
	2800	OTTA	45	1946	1948	8	101.0	23.5		
	2800	OTTA		1946.5	1948	2.6	101.0			
	2800	OTTA		1948.6	1949	5.4	79.0			
	8800	SGMR	46	1946.8	1948.8	6.5	160.0	106.4		
	8800	SGMR	46		1949		140.0			
	2695	SGMR	46	1946.5	1948	6.9	120.0	77.6		
	2695	SGMR	46		1949		90.0			
	2695	BOUL	45	1947	1949	10.5	68.0	28.0		
	8800	SGMR	29	1953.3	1953.3	33.9	16.0	3.6		
	2695	SGMR	29	1953.4	1953.4	32.2	12.8	2.9		
	2800	OTTA	30	1954		240	6.8	4.0		
	2800	OTTA	1	1959.5	2000.1	2	2.8	1.4		
	2695	BOUL	3	2000	2001	1.5	4.0	1.0		
30	2800	OTTA	3	1515	1516.5	5	18.6	12.4		
	2695	BOUL	45	1515.5	1518	14	36.0	7.0		
	8800	SGMR	45	1515	1516.1	5	32.8	14.4		
	2695	SGMR	3	1515.1	1517.6	5.9	36.3	14.1		
	2695	CANR	45	1516	1518.5	11	35.0	9.0		
	2800	OTTA	3	1517	1517.5	1	22.0	11.0		
	2800	OTTA	29	1520		220	8.4	2.8		
	8800	SGMR	29	1520	1520	39.5	20.5	10.2		
	2695	SGMR	29	1521	1521	39.4	9.7	4.3		
	2800	OTTA	21	2153	2159	125	5.4	1.8		
	8800	SGMR	4	2156.7	2159.4	10	15.6	6.2		
	2800	OTTA	1	2157	2157.3	1	1.8	0.9		
	2800	OTTA	3	2158.5	2159	4	12.0	6.0		
	2695	BOUL	3	2158.5	2200	5.5	18.0	6.0		
	2695	SGMR	4	2158.5	2159.5	7.7	10.4	4.2		

Observatories:

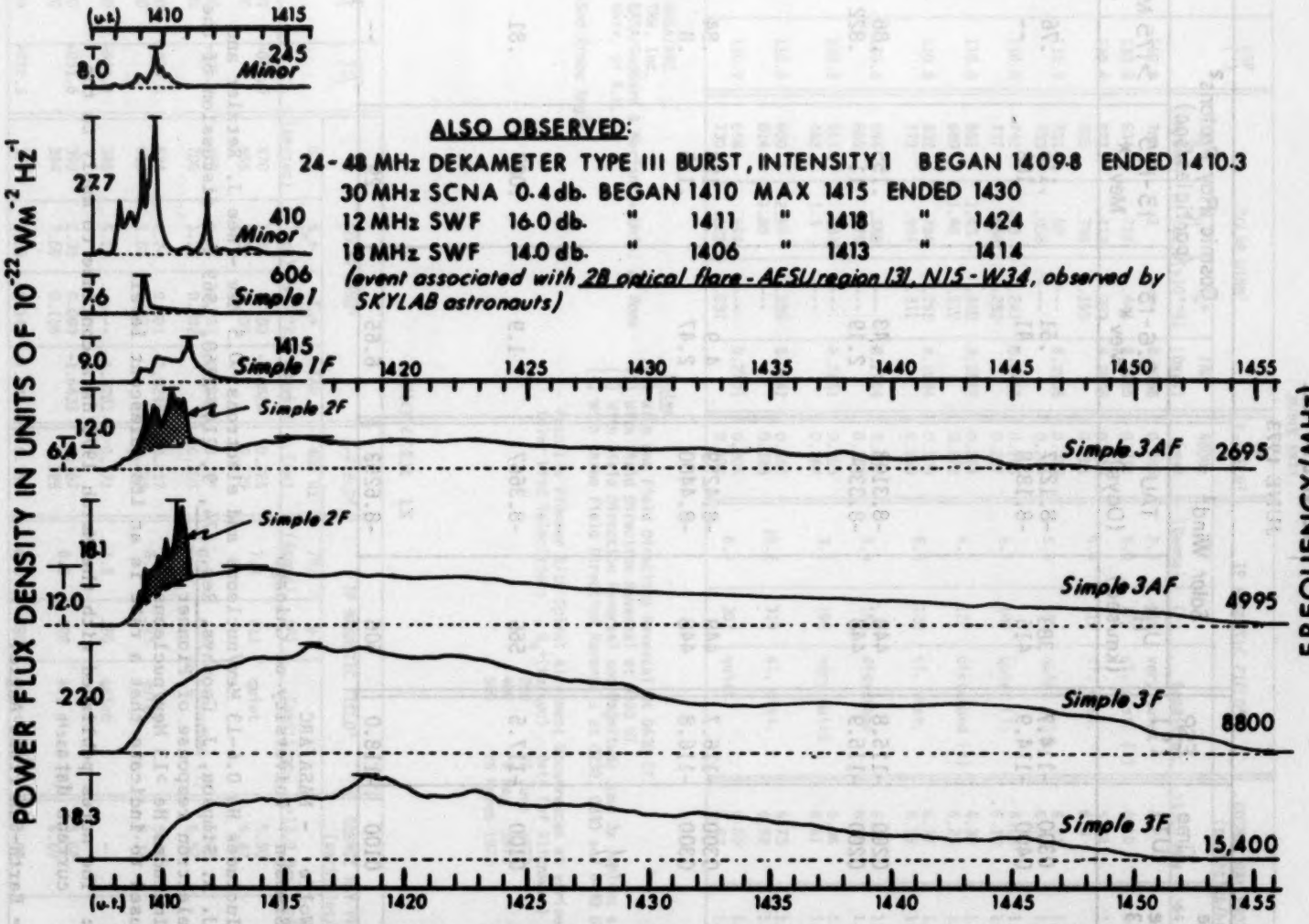
BOUL = Boulder CRON = Carnarvon OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill
CANR = Canary Islands MANI = Manila

Explanation of Type Code:

1 Simple 1 6 Minor 22 Simple 3F 27 Rise and Fall 32 Absorption 44 Noise storm in Progress
2 Simple 1F 7 Minor + 23 Simple 3AF 28 Precursor 40 Fluctuation 45 Complex
3 Simple 2 8 Spike 24 Rise 29 Post Burst Increase 41 Group of Bursts 46 Complex F
4 Simple 2F 20 Simple 3 25 Rise A 30 Post Burst Increase A 42 Series of Bursts 47 Great Burst
5 Simple 21 Simple 3A 26 Fall 31 Post Burst Decrease 43 Onset of Noise Storm 48 Major
49 Major +

SELECTED SOLAR NOISE BURST

JUNE 1973



ALSO OBSERVED:

24 - 48 MHz DEKAMETER TYPE III BURST, INTENSITY 1 BEGAN 1409.8 ENDED 1410.3
30 MHz SCNA 0.4 db. BEGAN 1410 MAX 1415 ENDED 1430
12 MHz SWF 16.0 db. " 1411 " 1418 " 1424
18 MHz SWF 14.0 db. " 1406 " 1413 " 1414
(event associated with 2B optical flare - AESU region 131, N15 - W34, observed by SKYLAB astronauts)

RADIO BURST OBSERVED 15 JUNE, 1973 AT SAGAMORE HILL RADIO OBSERVATORY
HAMILTON, MASS.

19 Jun 73

PIONEER VI

JUNE 1973

Date June 1973	Time (UT)	ESP (°)	Solar Wind[1]		Cosmic Ray Protons[2] (particles/sec)		
			U_{H^+} (km/sec)	TAU (Days)	0.6-13 Mev*	13-175 Mev**	>175 Mev
1							
2	0300	-114.7	383	-8.1297	.51	.115	.76
3	0400	-114.9	416	-8.1858	.41	.188	--
4							
5							
6							
7							
8							
9	0200	-115.8	448	-8.3193	.43	.155	.86
10	0200	-115.9	448	-8.3354	2.19	.11	.822
11							
12							
13							
14							
15							
16	0300	-116.7	448	-8.4259	4.9	.123	.84
17	0300	-116.8	448	-8.4400	2.47	.115	.8
18							
19							
20							
21							
22							
23							
24	0100	-117.5	566	-8.3667	1.9	.087	.81
25							
26							
27							
28							
29							
30	0100	-118.0	506	-8.6253	6.65	.29	--

[1] Wolfe - NASA/ARC
[2] Simpson - University of Chicago

* Includes He 0.6-13 Mev/nucleons and electrons ∿0.5 Mev - see J. Retzler and J. A. Simpson, J. Geophys. Res., 74, 9, 2149-2160, 1969 for discussion of the electron response of Pioneer VII.
** Includes He >13 Mev/nucleons.
Q used to indicate that a rate is at its quiescent level.

Note: The notes published with the March 1972 data continue to apply to the current data.

ESP = Earth-Sun Probe Angle.

PIONEER VIII

JUNE 1973

DATE JUNE 1973	TIME (UT)	ESP (°)	SOLAR WIND[1] U_H^+ (km/sec)	N_H^+ (H^+/cc)	T_H^+ (x10⁶°K)	TAU (Days)	IP E-FIELD[2] 400Hz (mv)	IP MAGNETIC FIELD[3] /B/ (Gamma)	φ (°)	Condition	COSMIC RAY PROTONS[4] (particles/sec) >13.9 Mev	>64 Mev
2	0500	110.8	789	1.2	----	8.2966	0.285	7.4	185	very quiet	6.2	1.01
3	0500	110.8	834	.728	.441	8.2955	0.272	5.4	175	sl. dist. (1)	6.10	0.96
4	0230	110.8	872	.418	.293	8.2946	0.219	4.4	119	sl. dist.	5.94	1.01
	0630		805	.736	.195		0.281				6.3	.99
5	0230	110.8	731	.59	----	8.2905	0.266	5.0	185	quiet (2)	6.11	1.01
	0630		703	.858	----		0.264				6.10	1.19
6	0200	110.8	742	.73	.241	8.2467	0.246	5.7	180	quiet (3)	6.15	1.31
	0600		737	.658	.252		0.257				6.13	1.1
7	0230	110.8	681	1.43	.318	8.2867	0.264	6.0	127	disturbed (4)	6.32	1.13
	0630		680	1.48	.312		0.272				6.23	1.21
8	0230	110.8	832	.784	.252	8.2884	0.309	6.5	128	sl. dist.	6.34	1.23
	0630		772	.984	.312		0.256				6.33	1.03
13	0130	110.8	696	.588	----	8.2764	0.237	3.6	165	disturbed	6.36	1.06
	0530		665	.525	----		0.258				6.28	1.13
14	0200	110.8	511	.803	----	8.2661	0.285	3.6	190	very quiet	6.38	1.31
	0600		462	1.3	----		0.266				6.61	1.15
22	0130	110.9	600	2.97	.288	8.2647	0.564	10.2	319	sl. dist.	6.73	1.2
	0530		614	1.85	----		0.383				6.92	1.37
23	0100	110.9	656	.644	----	8.2701	0.305	6.6	307	quiet	6.55	1.26
	0500		730	.822	.231		0.309				6.62	1.1

[1] Wolfe - NASA/ARC
[2] Scarfe - TRW, Inc.
[3] Ness - NASA/Goddard & Mariani - Univ. of Roma
[4] Webber - Univ. of N.H.

ESP = Earth-Sun Probe Angle.

Notes:
(1) With one Field Direction Reversal at 0630 UT
(2) With Field Direction Reversal at 0333 UT
(3) With Field Direction Reversal and Magnitude Jump 3x Ambient at 0530 UT
(4) With three Field Direction Reversals at 0230, 0330 and 0430 UT

Possible Pioneer 8/10 Spiral Alignment Occurrences at various Nominal Solar Wind Velocities:

U_H^+(km/sec)	Date (of Alignment)
300	25 June 1973
400	9 May 1973
500	26 March 1973

PIONEER IX

DATE JUNE 1973	TIME (UT)	ESP (°)	SOLAR WIND[1] U_H^+ (km/sec)	N_H^+ (H^+/cc)	T_H^+ (x10⁶°K)	TAU (Days)	IP E-FIELD[2] 400 Hz (mv)	IP MAGNETIC FIELD[3] /B/ (Gamma)	φ (°)	Condition	COSMIC RAY PROTONS[4] (particles/sec) >13.9 Mev	>40 Mev
7	0800	-023.0	570	1.36	0.183	-1.0624	0.225	7.1	111	quiet	5.50	1.01
	1200		555	1.52	0.209		0.229				5.47	1.15
13	0730	-025.9	628	1.43	0.257	-1.3821	0.197	9.2	011	disturbed (1)	5.42	0.86
	1130		700	1.28	0.382		0.203				5.52	1.17
20	0600	-029.0	634	2.24	0.301	-1.6298	0.217	8.2	325	quiet	5.35	1.03
	1000		618	1.62	0.272		0.222				5.37	1.07
25	1200	-030.9	346	6.21	----	-1.3281	0.171	4.5	259	quiet	--	--
27	0700	-031.6	395	2.33	0.099	-1.6433	0.107	6.5	108	sl. dist. (2)	5.62	1.07
	1100		394	2.69	0.116		0.125				5.69	1.16
30	1300	-032.3	374	5.35	0.148	-1.642	0.156	8.4	280	quiet (3)	5.89	1.14

[1] Wolfe - NASA/ARC
[2] Scarfe - TRW, Inc.
[3] Sonett and Colburn - NASA/ARC
[4] Webber - Univ. of N.H.

ESP = Earth-Sun Probe Angle.

Notes:
(1) With three Field Direction Reversals at 1000, 1100 and 1130 UT
(2) With two Field Direction Reversals at 0830 and 1030 UT
(3) Field Direction was outward from 1030 to 1230 UT then switched to inward from 1230 UT thru 1424 UT - End of Pass.

DATE	TIME	ZEP	SOLAR WIND						IP MAGNETIC FIELD						COMETS AND ANALOGUES			
JUNE 1972	(UT)	[1]	Proton Density (protons/cm³)	Proton Velocity (km/sec)	Proton Temp. (°K)	Alpha/Proton Ratio	Electron Density (electrons/cm³)	Electron Temp. (°K)	B	B_x	B_y	B_z	σ_B	σ_θ	Name	Perihelion Date	Perihelion Dist. (AU)	Orbital Period (years)
1	0000																	
	0030																	
2	0100																	
	0130																	
3	0200																	
	0230																	
4	0300																	
	0330																	
5	0400																	
	0430																	
6	0500																	
	0530																	
7	0600																	
	0630																	
8	0700																	
	0730																	
9	0800																	
	0830																	
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12	1100																	
	1130																	
13	1200																	
	1230																	
14	1300																	
	1330																	
15	1400																	
	1430																	
16	1500																	
	1530																	
17	1600																	
	1630																	
18	1700																	
	1730																	
19	1800																	
	1830																	
20	1900																	
	1930																	
21	2000																	
	2030																	
22	2100																	
	2130																	
23	2200																	
	2230																	
24	2300																	
	2330																	

* Wolfe - MASA/ARC
* Scarfe - IMA, Inc.
* Snyder - MASA/Goddard Space Flight Center
* Webber - Univ. of N.H.

EZP = Earth-Sun Ecliptic Angle.

(1) With three field Direction Reversals at 0000, 1100 and 1230 UT
(2) With two Field Direction Reversals at 0030 and 1030 UT
(3) Field Direction was assumed from 1030 to 1230 UT then switched to inward from 1230 at then 1454 UT - Sum of Pos.

PROBLEM IX

MAY 1973 DATA

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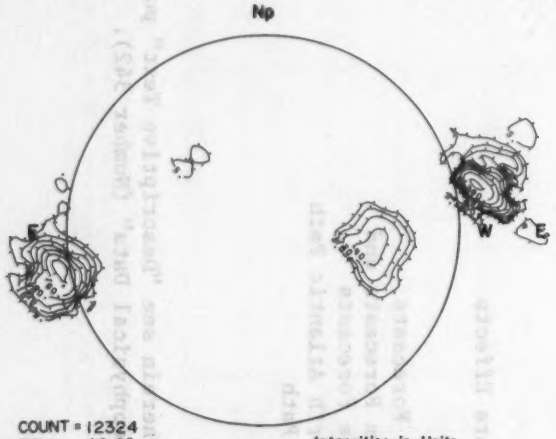
Errata: See page 114.

For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

MAY 1, 1973 (P=-24.21, B_o=-4.14, L_o=59.63)

24 May 73

NASA GSFC OSO-7 — X-RAY

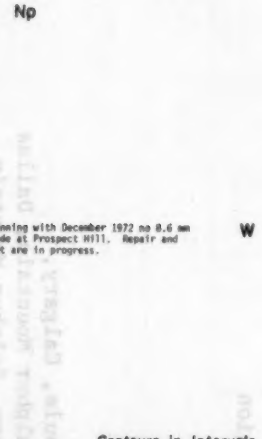


COUNT = 12324
ROLL = 46.6°
P-TH = -5.96

0446 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL AFCRL — 8.6 mm



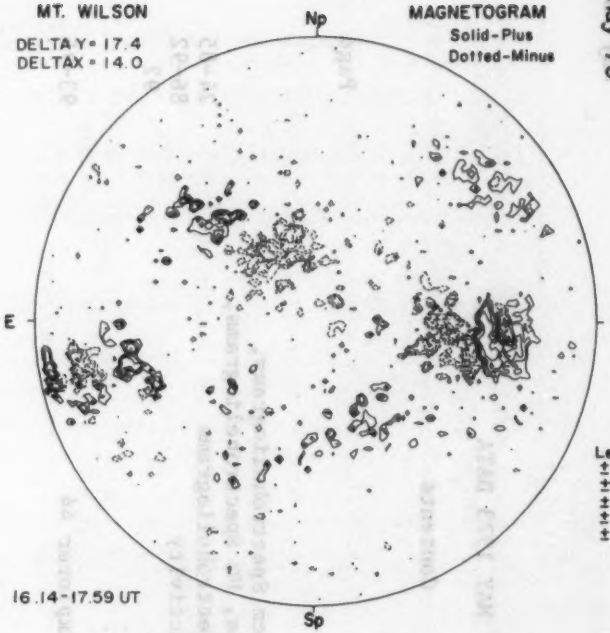
Note:
For several months beginning with December 1972 no 8.6 mm observations will be made at Prospect Hill. Repair and calibration of equipment are in progress.

Contours in Intervals of 200° K

MT. WILSON — MAGNETOGRAM

Solid-Plus
Dotted-Minus

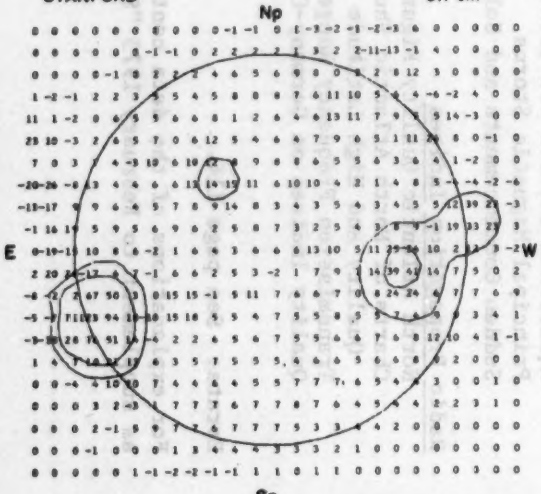
DELTA Y = 17.4
DELTA X = 14.0



Levels
±5
±10
±20
±40
±80

16.14-17.59 UT

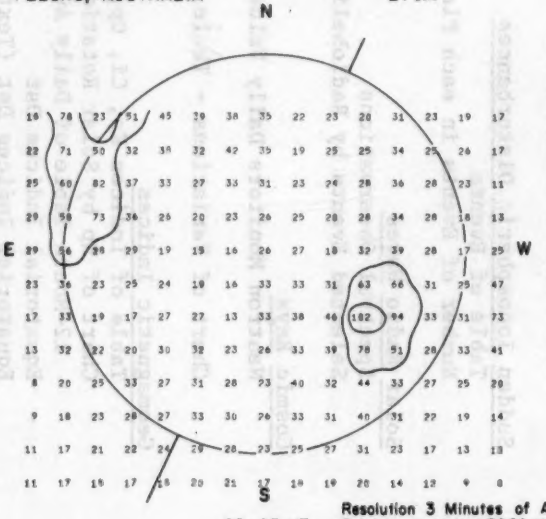
STANFORD — 9.1 cm



20-21 UT

Brightness Unit 5,000° K

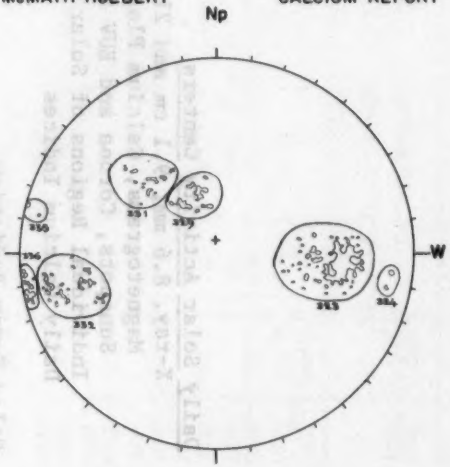
FLEURS, AUSTRALIA — 21 cm



02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT — CALCIUM REPORT



POOR	M
23 - 5800	- 3.0
29 - 1200	- 2.5
36 - 1800	- 3.5

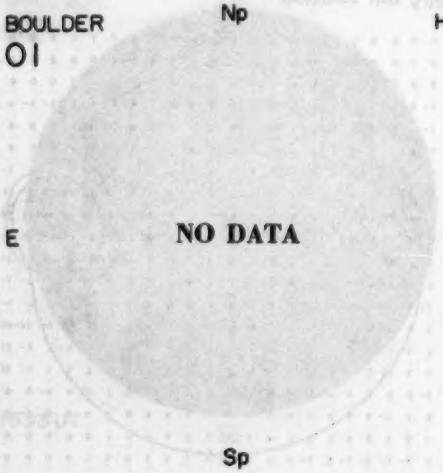
1605 UT

20-21 UT

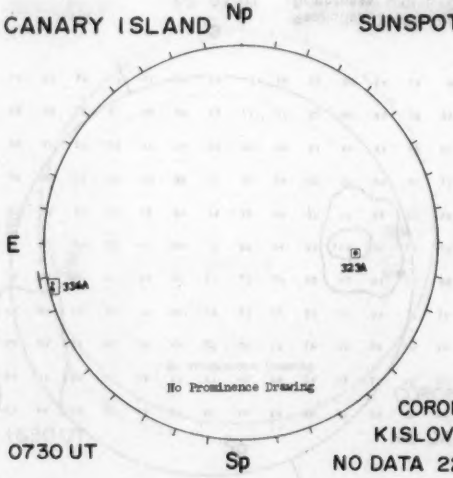
02-03 UT Brightness Unit 1,700° K

1605 UT

BOULDER
01



CANARY ISLAND SUNSPOTS



0730 UT

NRL
OSO-7

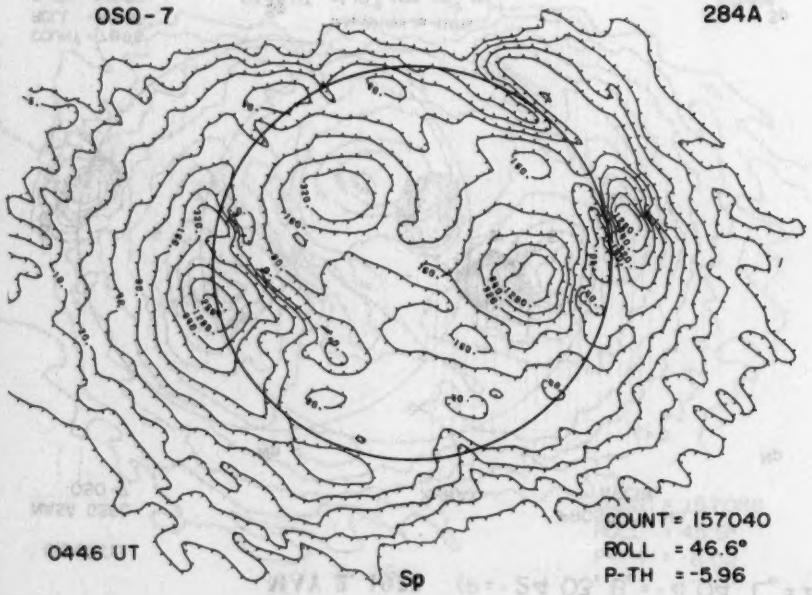
WHITE-LIGHT
CORONA

1042 UT

CORONA
KISLOVODSK
NO DATA 220°-360°

NASA GSFC
OSO-7

FE XV
284A

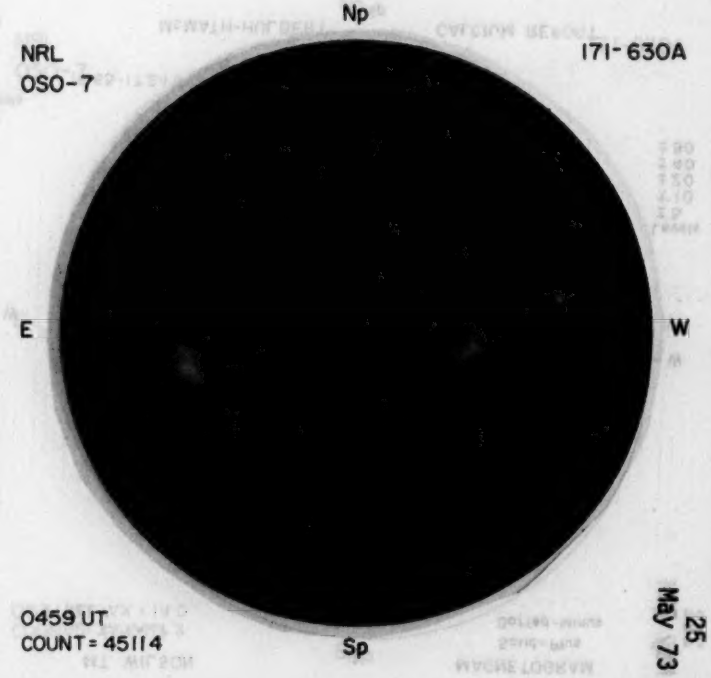


0446 UT

COUNT = 157040
ROLL = 46.6°
P-TH = -5.96

NRL
OSO-7

171-630A



0459 UT
COUNT = 45114

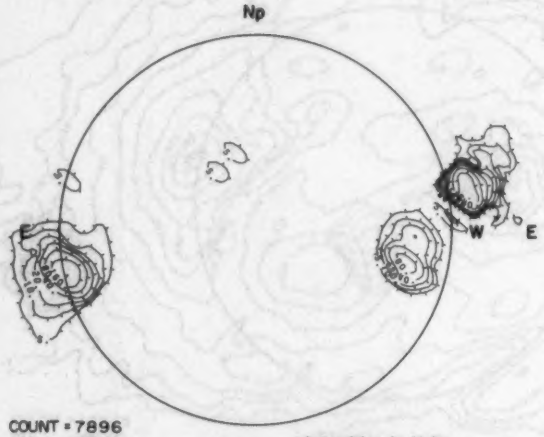
25 May 73

MAY 2, 1973 (P = -24.03, B_o = -4.04, L_o = 46.41)

26 May 73

NASA GSFC
OSO-7

X-RAY



COUNT = 7896
ROLL = 45.9°
P-TH = -6.02

0345 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

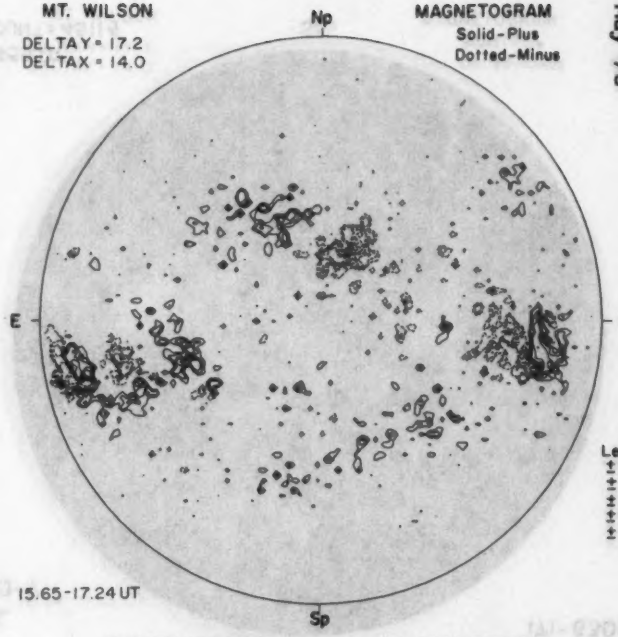
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus

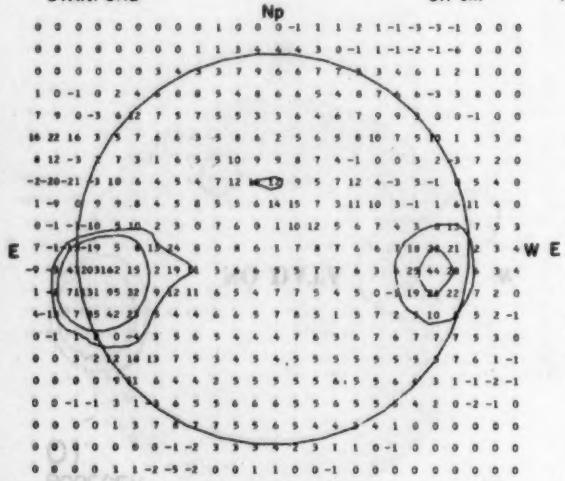


Levels
±5
±10
±20
±40
±80

15.65-17.24 UT

STANFORD

9.1 cm

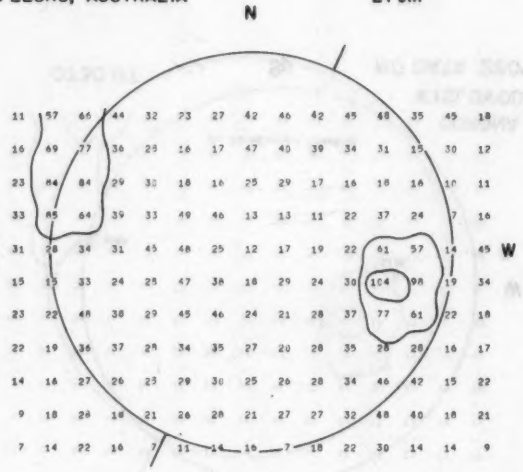


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

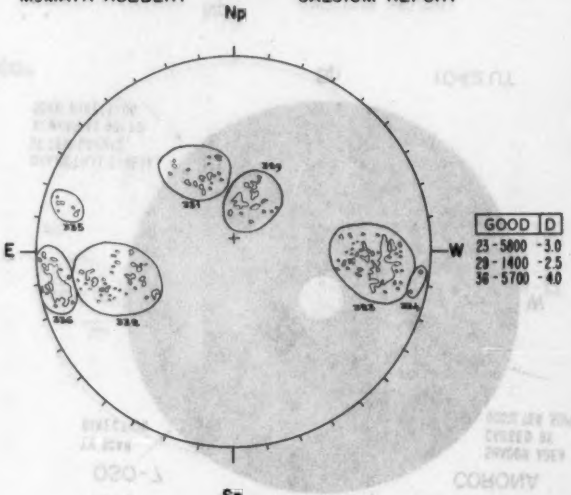


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



1345 UT

BOULDER
02

Np

Hα

E

W

Sp

1533 UT

BOULDER

Np

SUNSPOTS

E

W

336A

323A

323B

No Prominence Drawing

CORONA

NO DATA

1630 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

1115 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A

COUNT = 157088
ROLL = 45.9°
P-TH = -6.02

0345 UT

Sp

NRL
OSO-7

Np

171-630A

E

W

0531 UT
COUNT = 46073

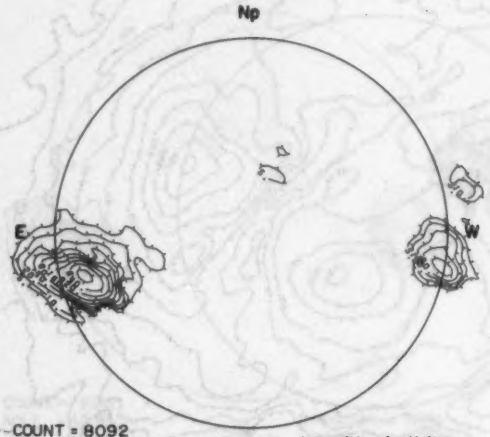
Sp

27
May 73

MAY 3, 1973 (P=-23.84, B_o=-3.94, L_o=33.19)

NASA GSFC
OSO-7

X-RAY



COUNT = 8092
ROLL = 42.3°
P-TH = -6.09

0425 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

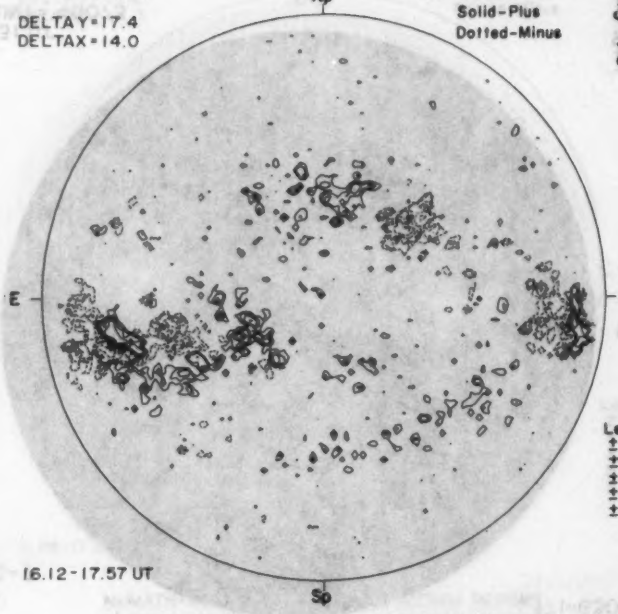
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus

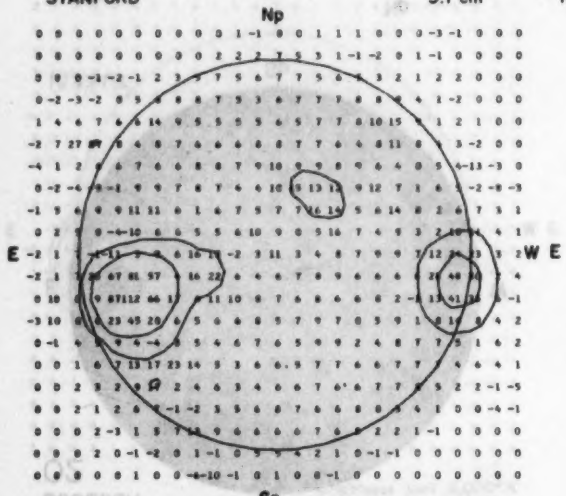


Levels
±5
±10
±20
±40
±80

16.12 - 17.57 UT

STANFORD

9.1 cm

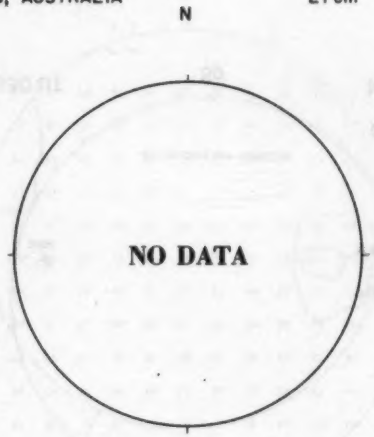


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

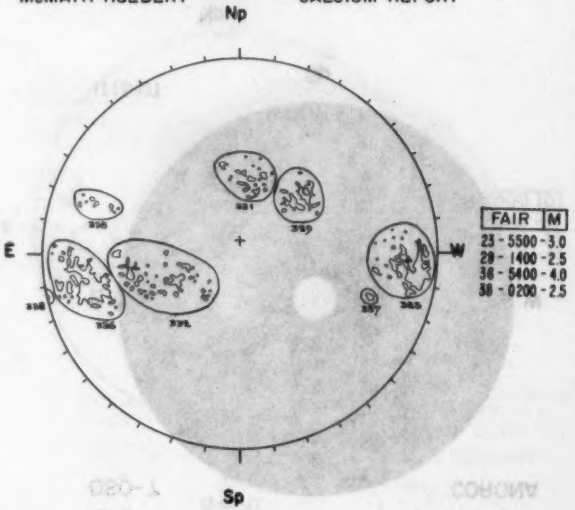


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



1500 UT

20-21 UT

02-03 UT Brightness Unit 1,700° K

1500 UT

BOULDER
03

Np

Hα

E

W

1458 UT

Sp

BOULDER

Np

SUNSPOTS

2340 UT

Sp

CORONA
PIC-DU-MIDI

NRL
OSO-7

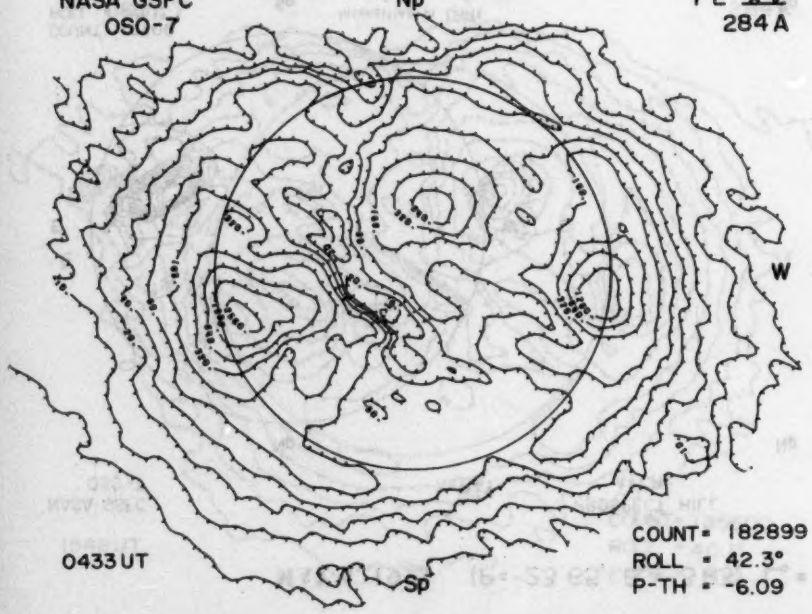
WHITE-LIGHT
CORONA

1014 UT

Sp

NASA GSFC
OSO-7

Np



0433 UT

Sp

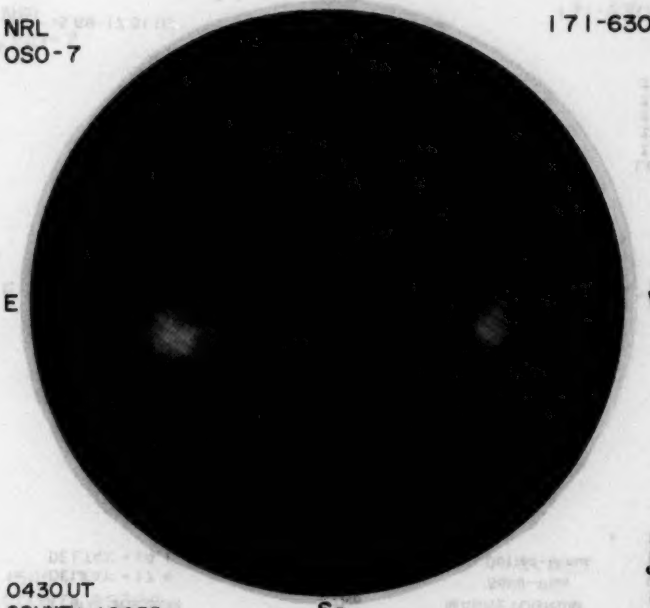
COUNT = 182899
ROLL = 42.3°
P-TH = -6.09

FE XV
284 A

NRL
OSO-7

Np

171-630A



0430 UT
COUNT = 48059

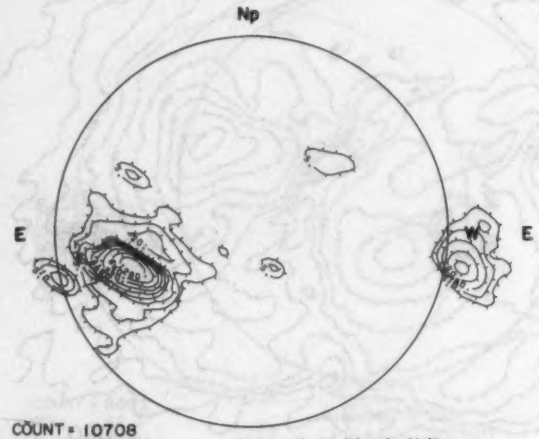
Sp

29
May 73

MAY 4, 1973 (P=-23.65, B_o=-3.83, L_o=19.97)

NASA GSFC
OSO-7

X-RAY



COUNT = 10708
ROLL = 40.1°
P-TH = -6.19

1548 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

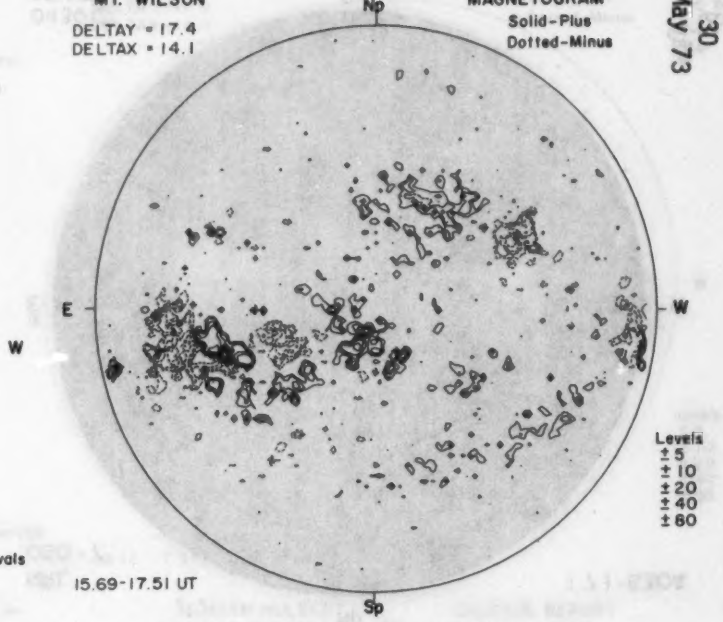
8.6 mm

Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.4
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

30 May 73

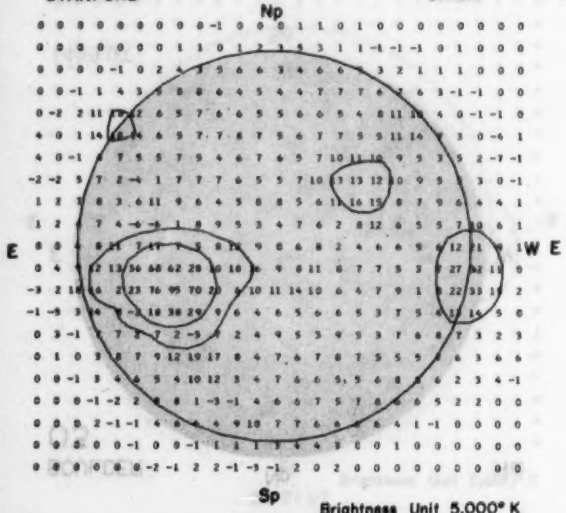


Levels
±5
±10
±20
±40
±60

15.69-17.51 UT

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

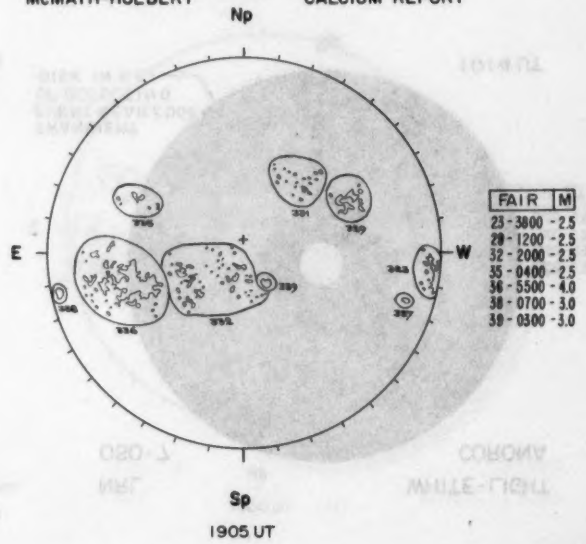
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



1905 UT

20-21 UT

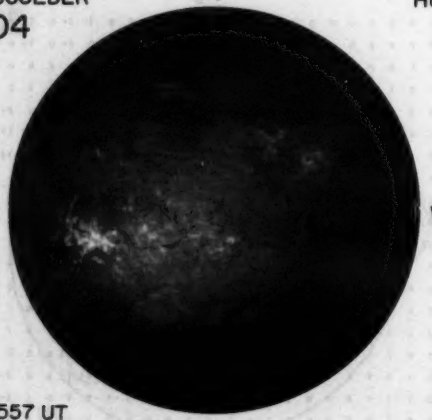
02-03 UT Brightness Unit 1,700° K

1905 UT

BOULDER
04

Np

Hα



E

W

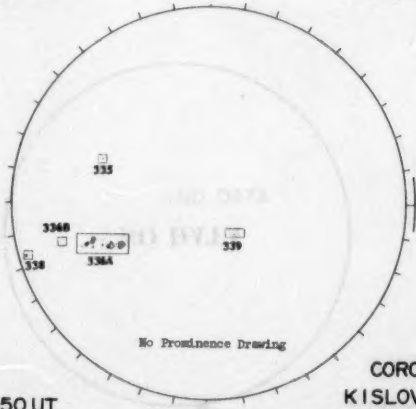
Sp

1557 UT

BOULDER

Np

SUNSPOTS



E

W

Sp

1550 UT

CORONA
KISLOVODSK
NO DATA 280°-360°

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

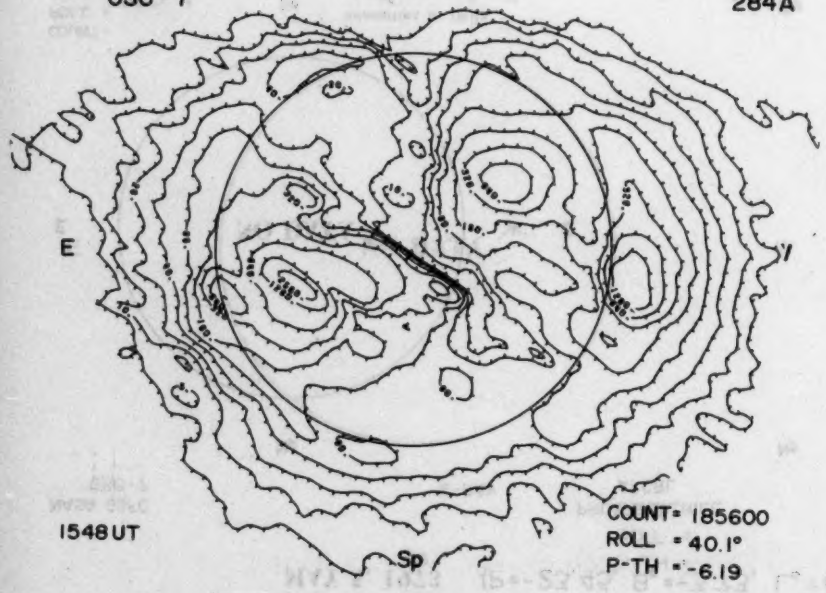
Sp

0914 UT

NASA GSFC
OSO-7

Np

FE XV
284A



E

W

Sp

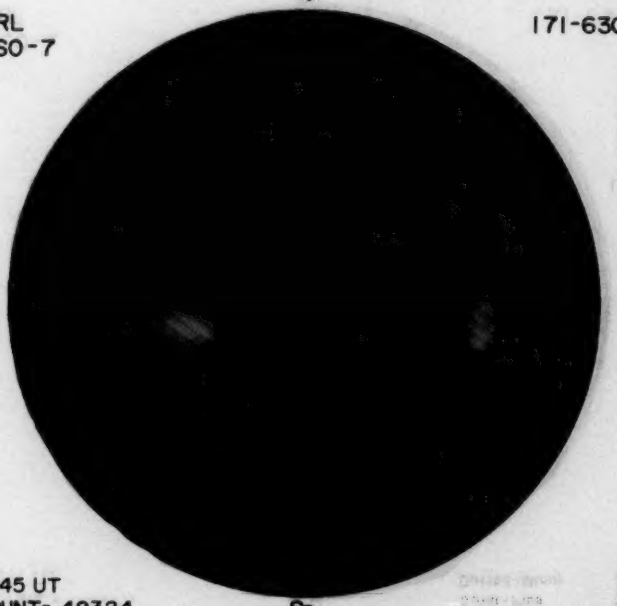
1548 UT

COUNT= 185600
ROLL = 40.1°
P-TH = -6.19

NRL
OSO-7

Np

171-630A



E

W

Sp

1545 UT
COUNT= 49324

31
May 73

MAY 5, 1973 (P=-23.45, B_o=-3.73, L_o=6.76)

NASA GSFC
OSO-7

X-RAY

Np

E NO DATA W

Sp

COUNT =
ROLL =
P-TH =

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

Np

E W

Sp

Contours in Intervals of 200° K

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

E NO DATA W

Sp

Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

Np

E W

Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

N

NO DATA

W

S

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

Np

E W

Sp

1430 UT

GOOD	S
29-1100	-2.5
32-2500	-2.5
36-6000	-4.0
38-0700	-3.5
39-0300	-3.0

20-21 UT

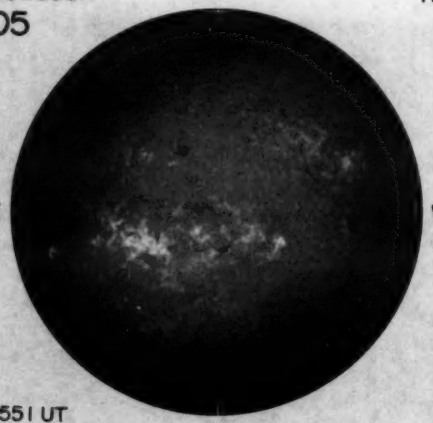
02-03 UT Brightness Unit 1,700° K

1430 UT

BOULDER
05

Np

Hα



E

W

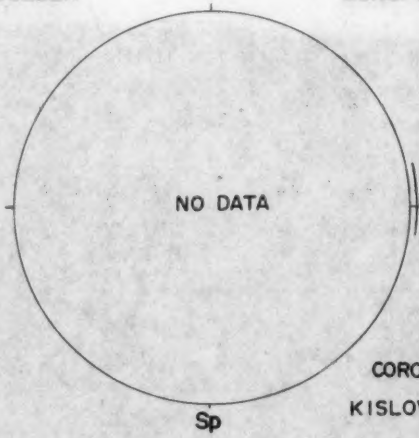
Sp

1551 UT

BOULDER

Np

SUNSPOTS



E

W

Sp

CORONA
KISLOVODSK

NRL
OSO-7

WHITE-LIGHT
CORONA

E

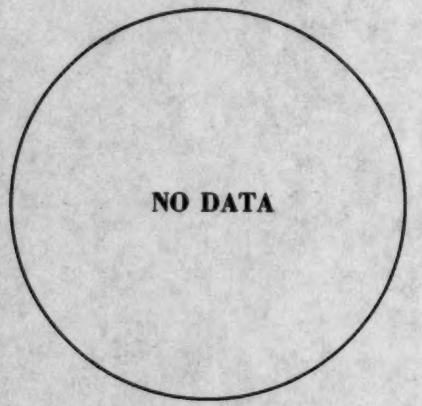
W

Sp

0945 UT

NASA GSFC
OSO-7

Np



E

W

Sp

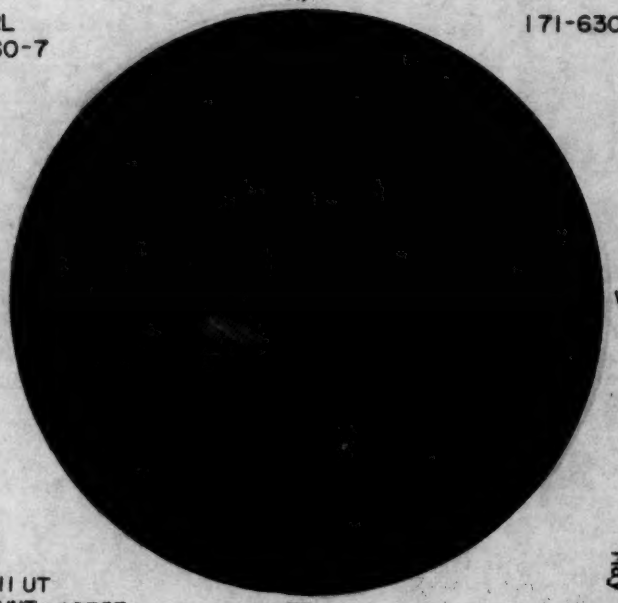
FE XV
284A

COUNT=
ROLL =
P-TH =

NRL
OSO-7

Np

171-630A



E

W

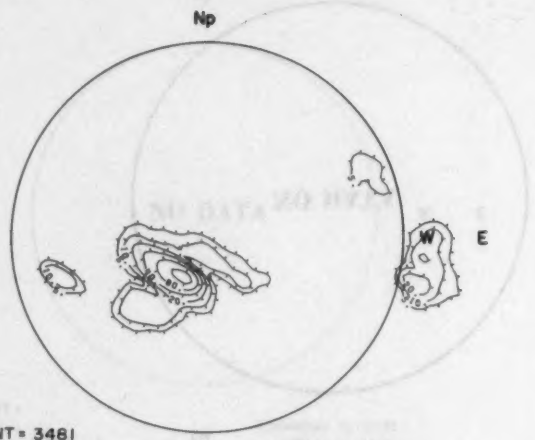
Sp

1611 UT
COUNT=48757

MAY 6, 1973 (P = -23.24, B_o = -3.62, L_o = 353.54)

NASA GSFC
OSO-7

X-RAY



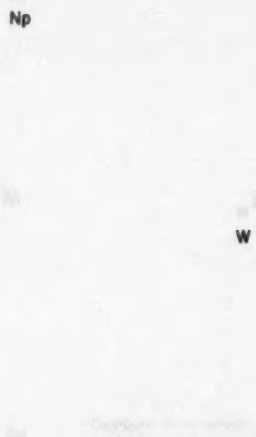
COUNT = 3481
ROLL = 37.9°
P-TH = -6.31

1341 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

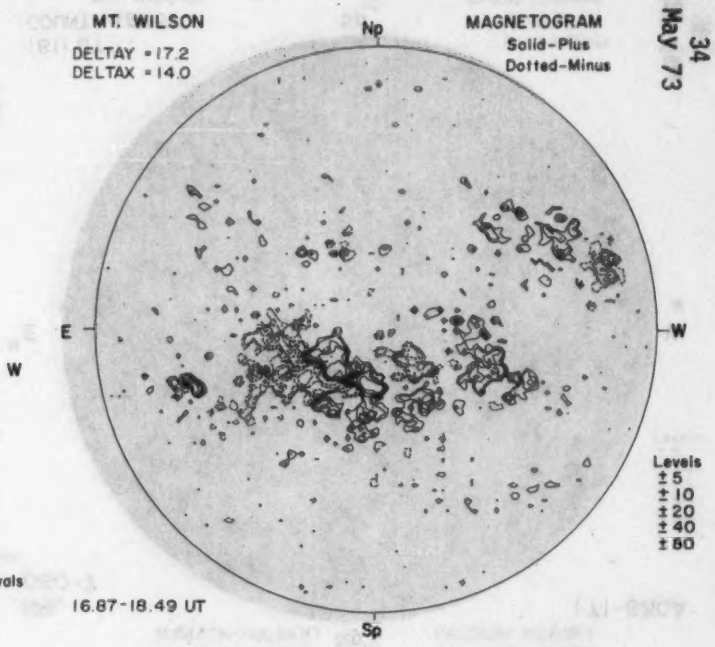


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

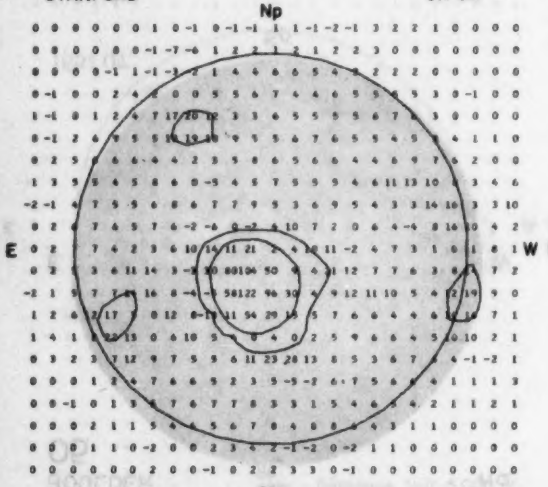


Levels
±5
±10
±20
±40
±80

16.87-18.49 UT

STANFORD

9.1 cm

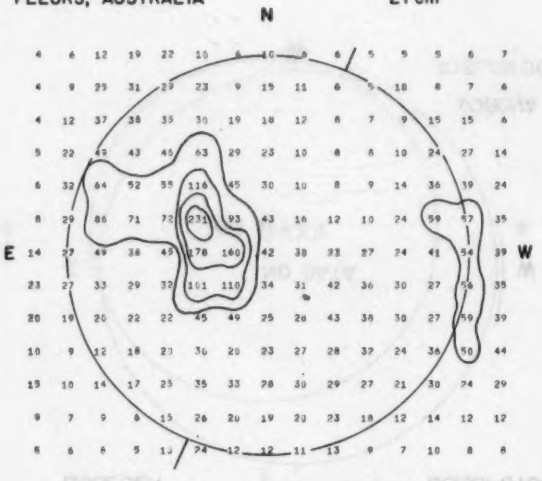


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

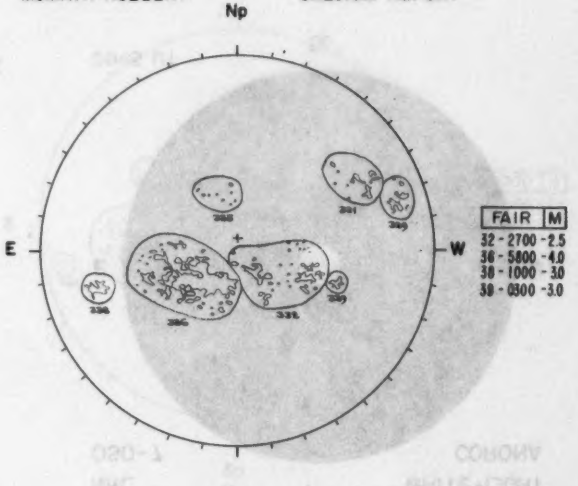


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1250 UT

20-21 UT

Brightness Unit 5,000° K

02-03 UT

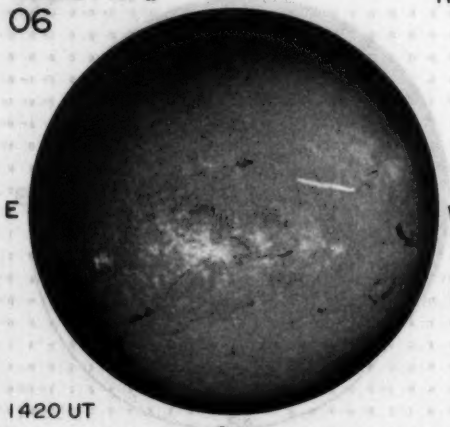
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1250 UT

RAMEY AFB
06

Np

Hα

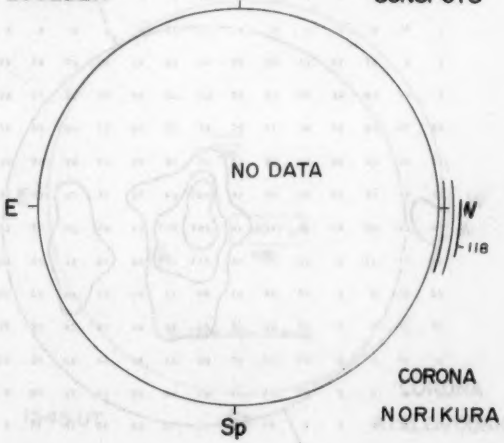


1420 UT

BOULDER

Np

SUNSPOTS

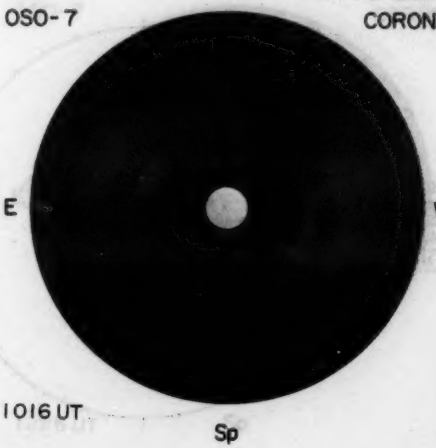


CORONA
NORIKURA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

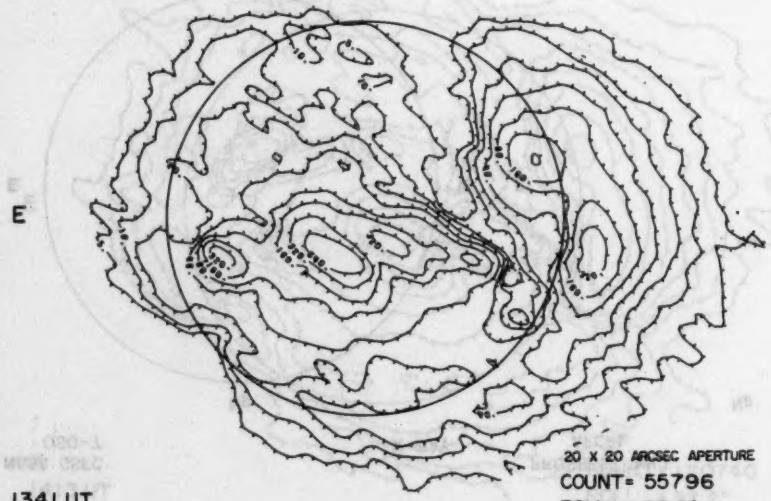


1016 UT

NASA GSFC
OSO - 7

Np

FE XV
284A

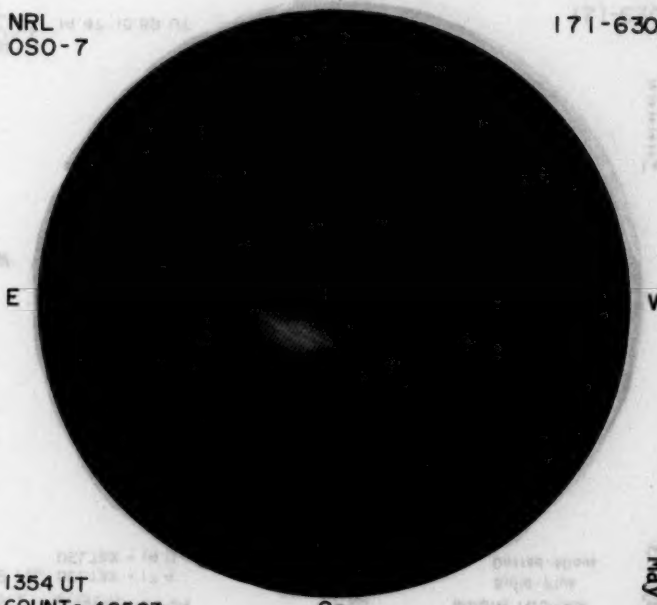


1341 UT

NRL
OSO-7

Np

171-630A



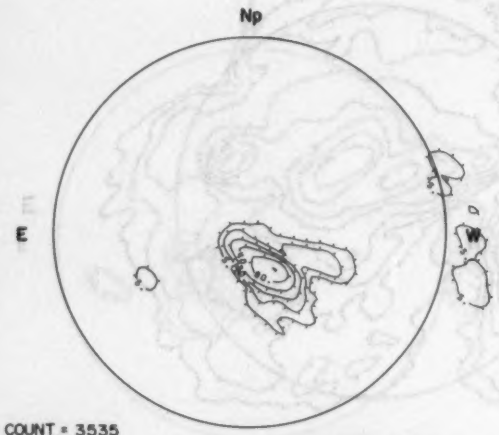
1354 UT
COUNT= 46503

35
May 73

MAY 7, 1973 (P=-23.02, B_o=-3.52, L_o=340.32)

NASA GSFC
OSO-7

X-RAY



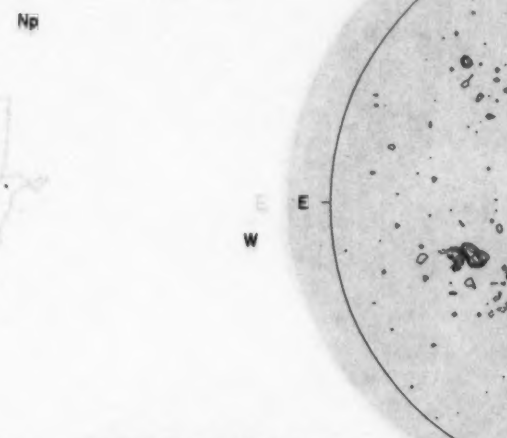
COUNT = 3535
ROLL = 37.2°
P-TH = -6.37

1413 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

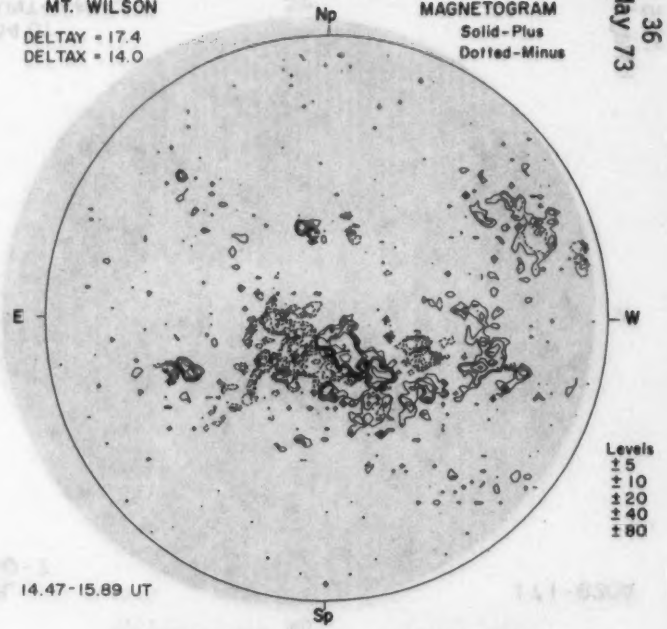


Contours in Intervals of 200° K

14.47-15.89 UT

MT. WILSON
DELTAY = 17.4
DELTAX = 14.0

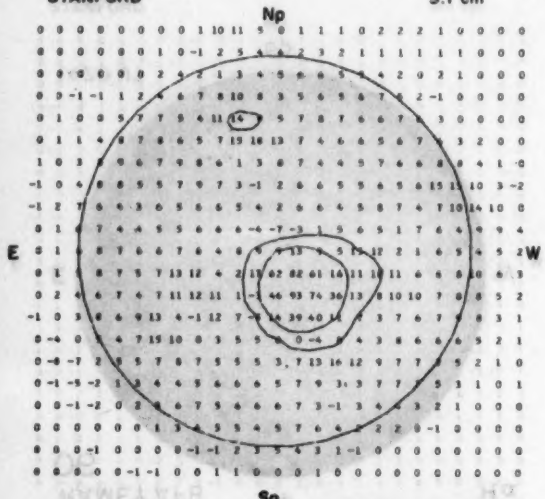
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

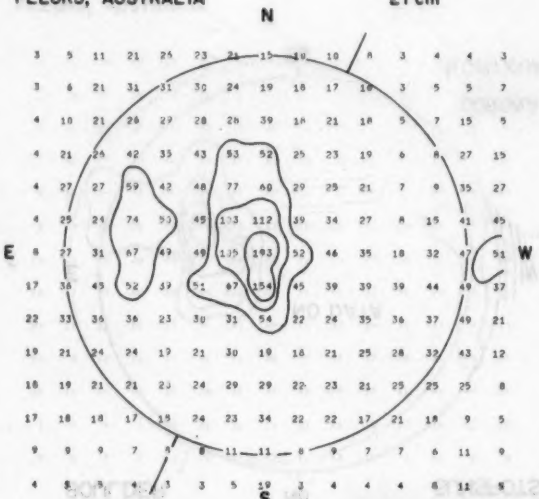


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

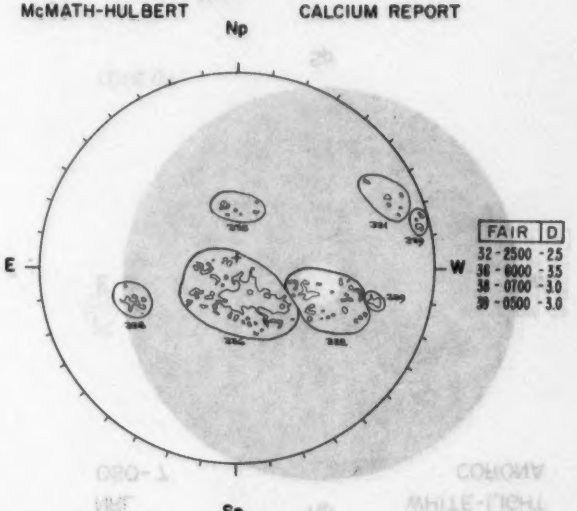


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

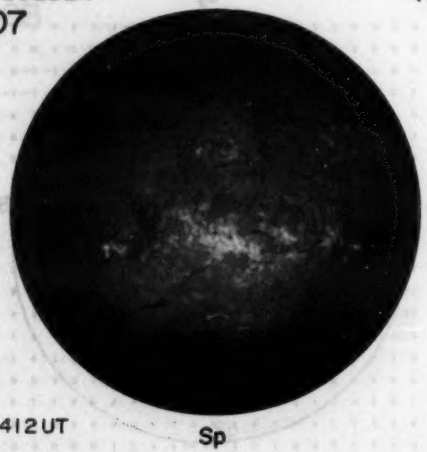
CALCIUM REPORT



1440 UT

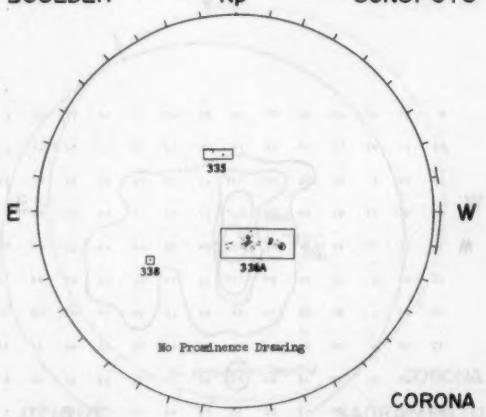
20-21 UT 02-03 UT Brightness Unit 1,700° K 1440 UT

BOULDER Np Hα
07



1412 UT

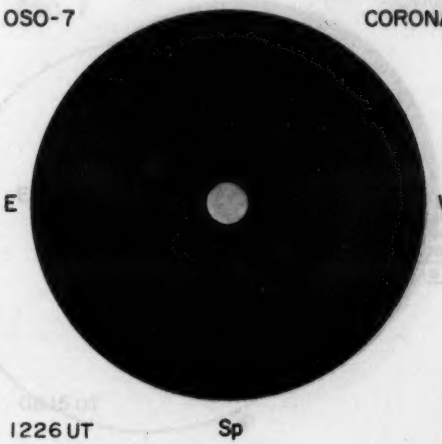
BOULDER Np SUNSPOTS



1545 UT

CORONA
KISLOVODSK

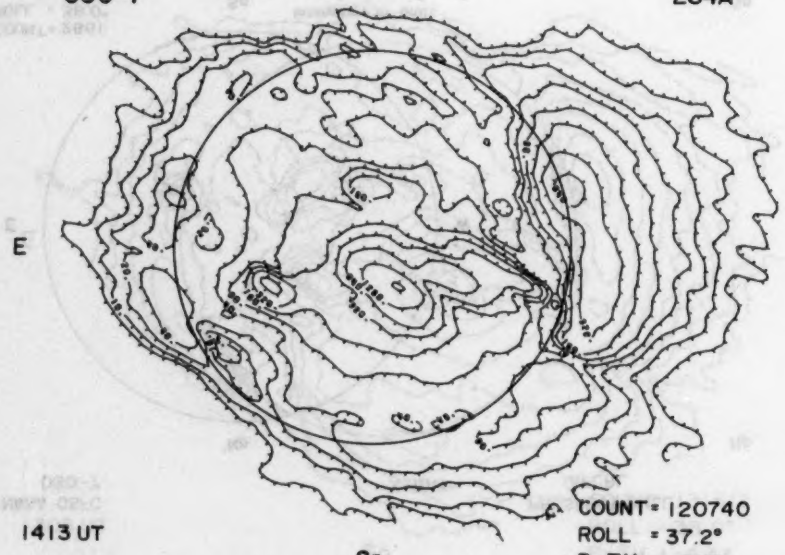
NRL WHITE-LIGHT
OSO-7 CORONA



1226 UT

NASA GSFC Np
OSO-7

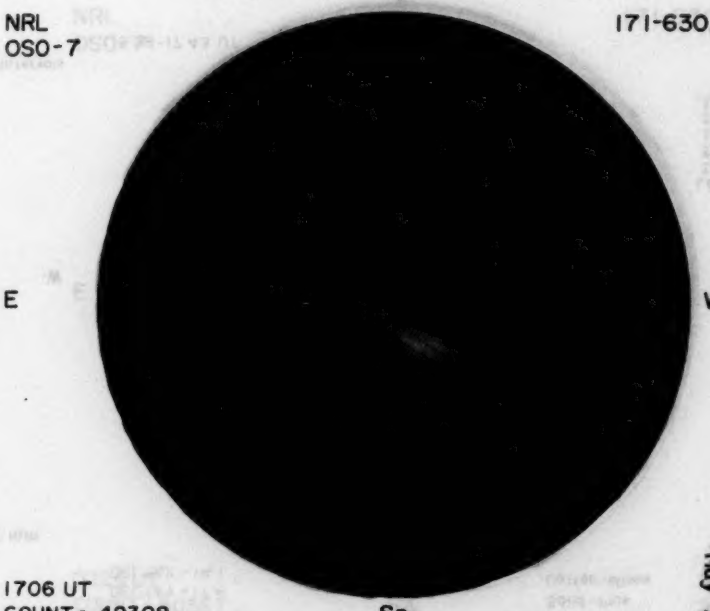
FE XV
284A



1413 UT

COUNT = 120740
ROLL = 37.2°
P-TH = -6.37

Np 171-630A
NRL
OSO-7



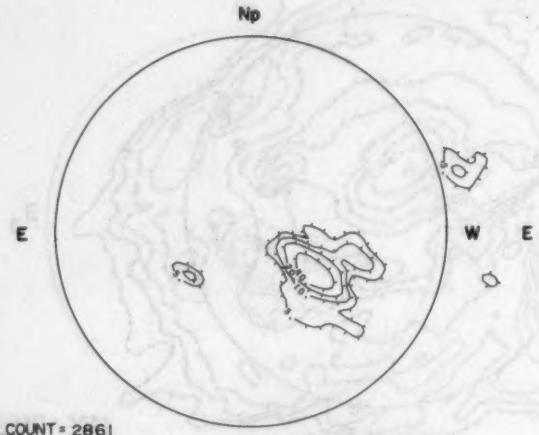
1706 UT
COUNT = 49308

37
May 73

MAY 8, 1973 (P=-22.80, B_o=-3.41, L_o=327.09)

NASA GSFC
OSO-7

X-RAY



COUNT = 2861
ROLL = 38.0°
P-TH = -6.43

1308 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

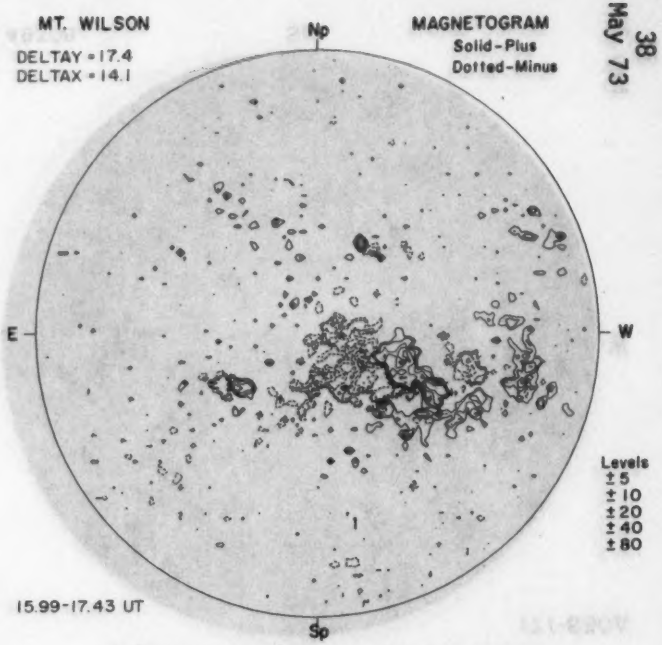
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.4
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

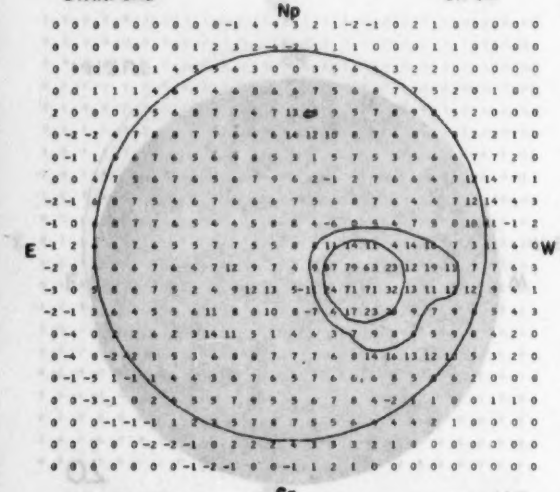
15.99-17.43 UT

McMATH-HULBERT

CALCIUM REPORT

STANFORD

9.1 cm

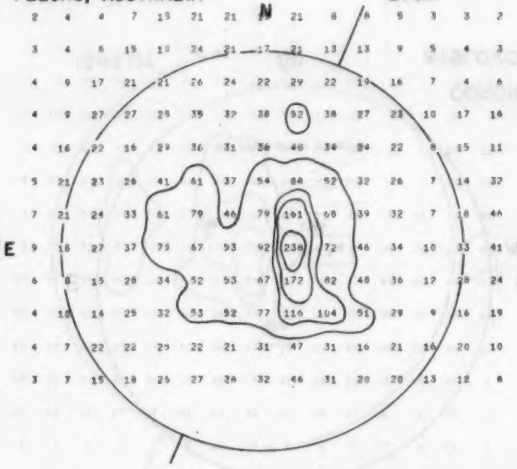


Brightness Unit 5,000° K

20-21 UT

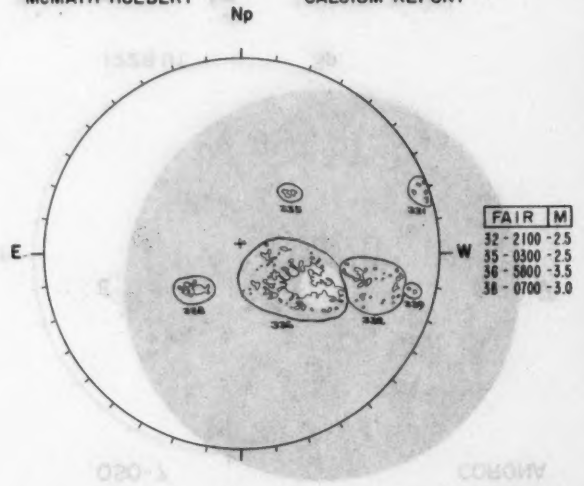
FLEURS, AUSTRALIA

21 cm



Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT



2150 UT

BOULDER

Hα

CANARY ISLAND

SUNSPOTS

NRL

WHITE-LIGHT

BOULDER
08

Np

Hα

E

NO DATA

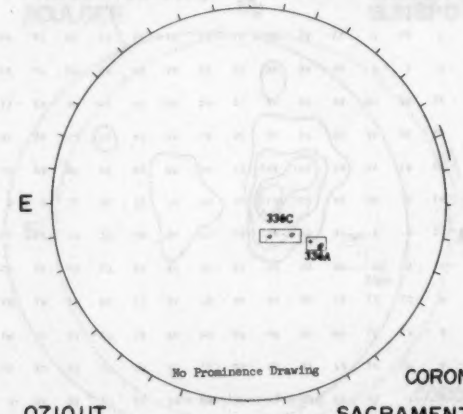
W

Sp

CANARY ISLAND

Np

SUNSPOTS



0710 UT

Sp

SACRAMENTO PEAK

NRL
OSO-7

WHITE-LIGHT
CORONA

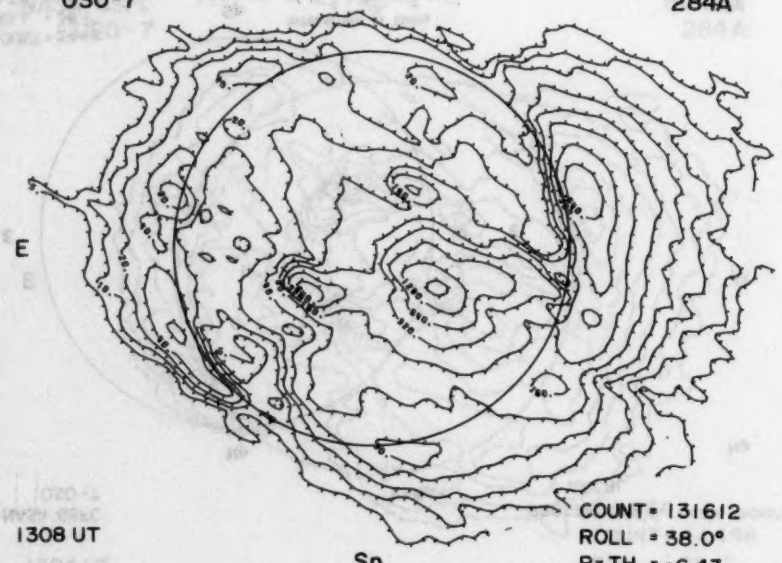
0815 UT

Sp

NASA GSFC
OSO-7

Np

FE. XV
284A



COUNT = 131612
ROLL = 38.0°
P-TH = -6.43

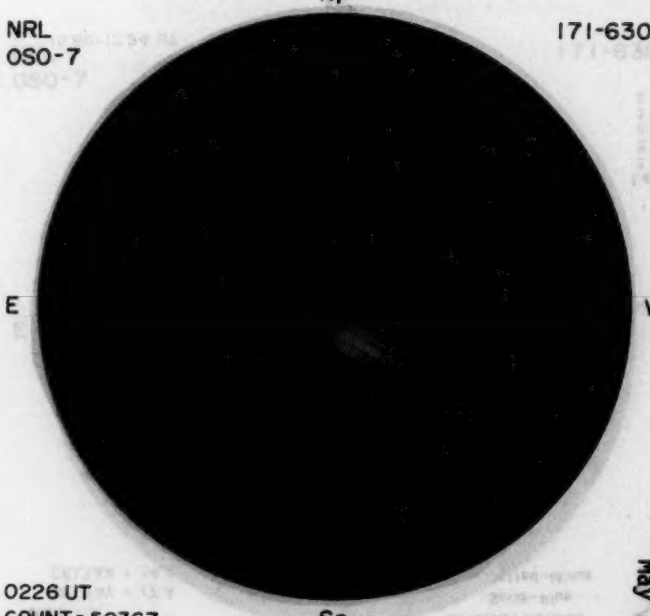
1308 UT

Sp

Np

NRL
OSO-7

171-630A



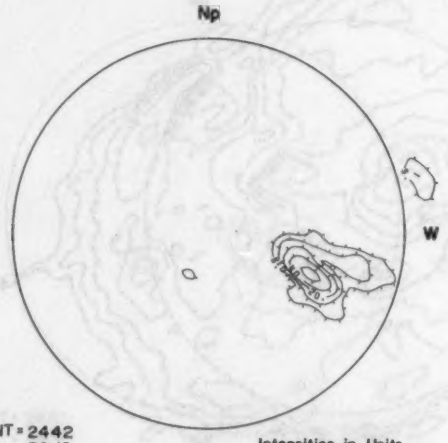
0226 UT
COUNT = 50367

Sp

MAY 9, 1973 (P = -22.57, B_o = -3.30, L_o = 313.87)

NASA GSFC
OSO-7

X-RAY



COUNT = 2442
ROLL = 38.1°
P-TH = -6.48

1204 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

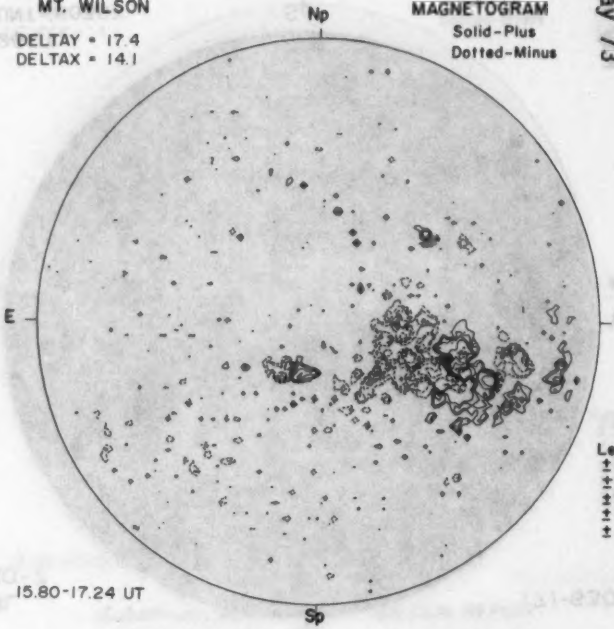
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

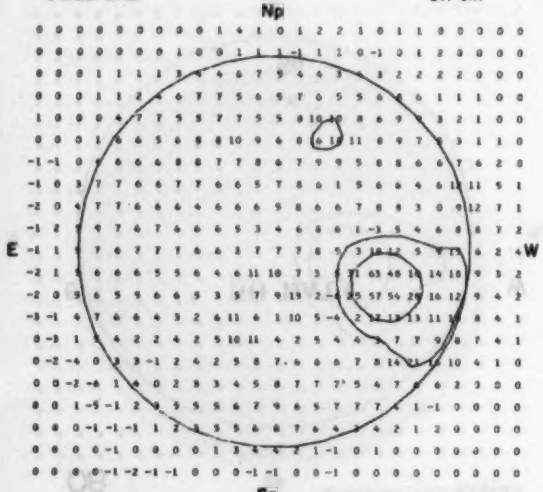


Levels
±5
±10
±20
±40
±80

15.80-17.24 UT

STANFORD

9.1 cm

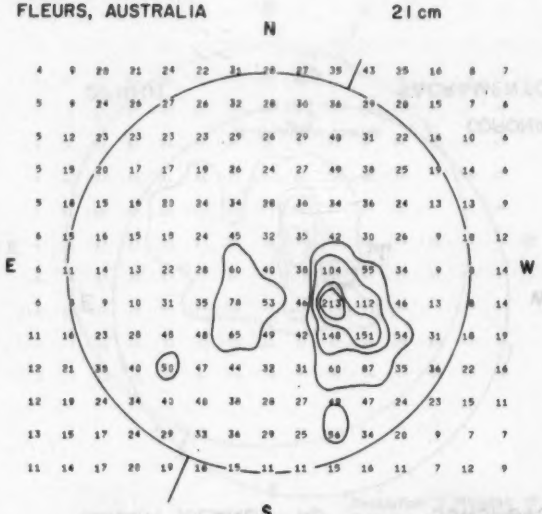


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

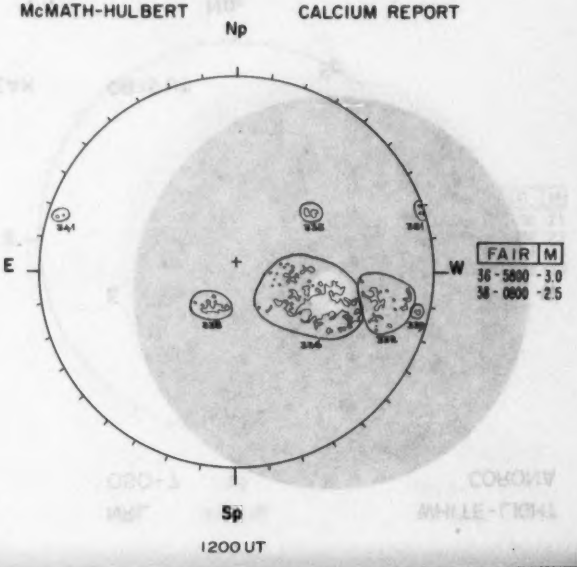


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1200 UT

WHITE-LIGHT

20-21 UT

02-03 UT

Brightness Unit 1,700° K

1200 UT

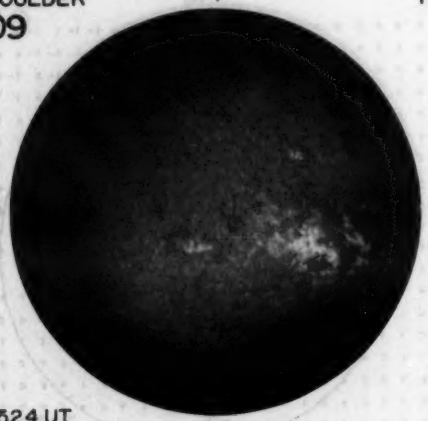
BOULDER
09

Np

Hα

E

W



1524 UT

Sp

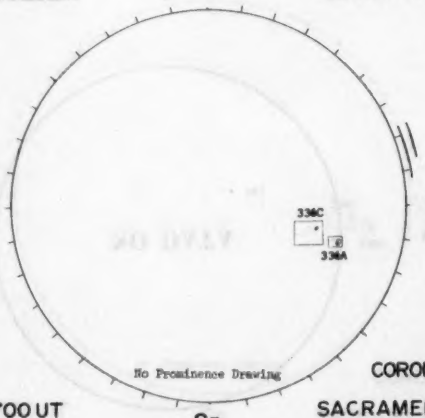
BOULDER

Np

SUNSPOTS

E

W



No Prominence Drawing

1700 UT

Sp

CORONA

SACRAMENTO PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

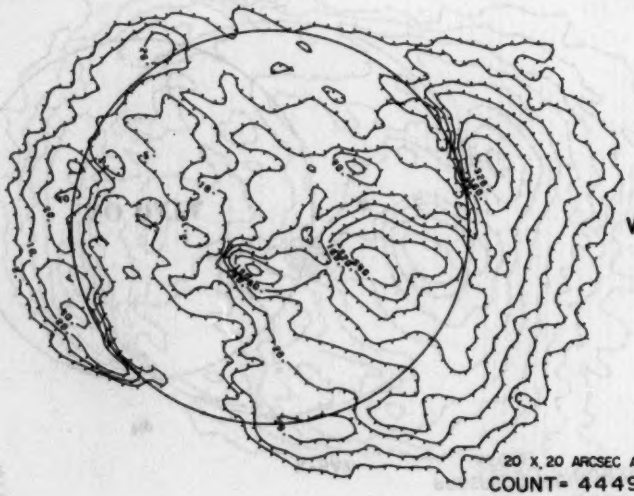
TRANSIENT STREAMER IN S.E., DURATION LESS THAN THREE HOURS.

0715 UT

Sp

NASA GSFC
OSO-7

Np



E

W

20 X 20 ARCSEC APERTURE
COUNT = 44498
ROLL = 38.1°
P-TH = -6.48

1204 UT

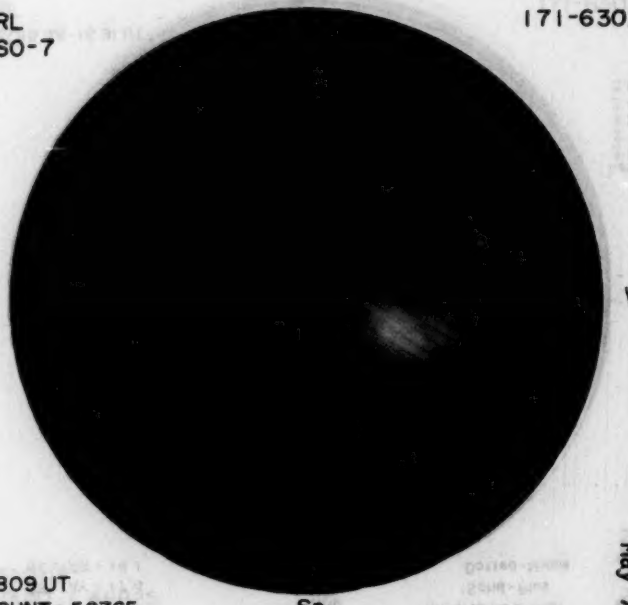
Sp

FE XV
284A

Np

NRL
OSO-7

171-630A



E

W

1809 UT
COUNT = 50765

Sp

41
May 73

MAY 10, 1973 (P = -22.33, B_o = -3.19, L_o = 300.65)

NASA GSFC
OSO-7

X-RAY

PROSPECT HILL
AFCRL

8.6 mm

Np

E NO DATA W E W

Sp

COUNT =
ROLL =
P-TH =

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

MT. WILSON
DELTAY = 17.4
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

E W

Sp

Levels
±5
±10
±20
±40
±80

15.46-16.91 UT

STANFORD

9.1 cm

Np

E W E

Sp

Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

N

NO DATA

W E W

S

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT

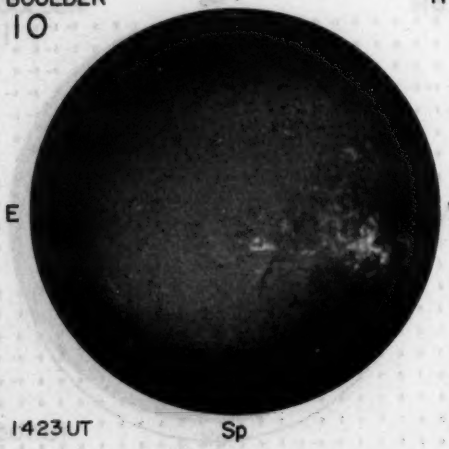
Np

FAIR D
36-5600-30
38-0600-25

Sp

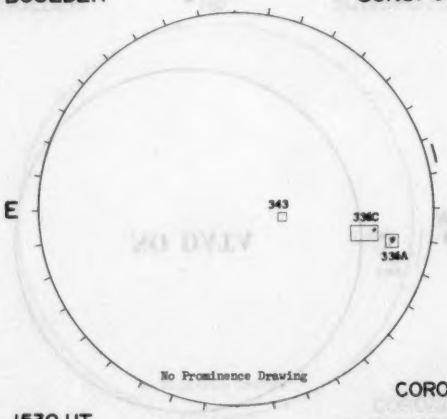
1210 UT

BOULDER
10



1423 UT

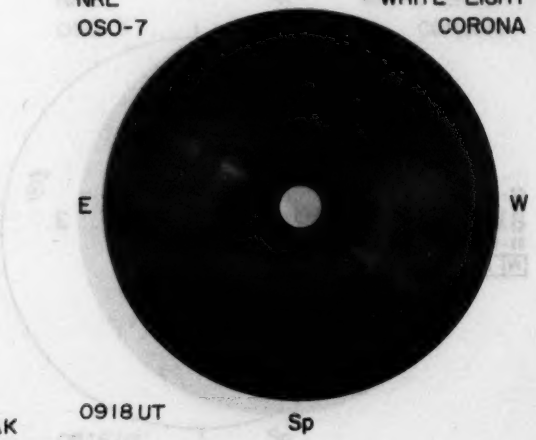
BOULDER



1530 UT

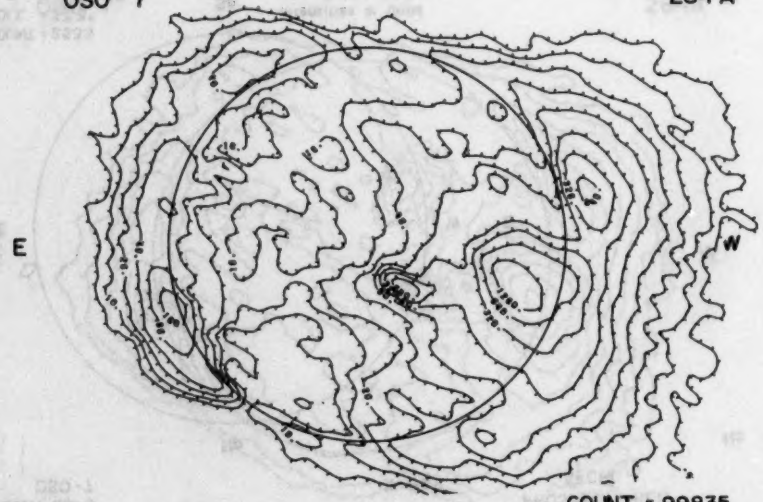
SACRAMENTO PEAK

NRL
OSO-7



0918 UT

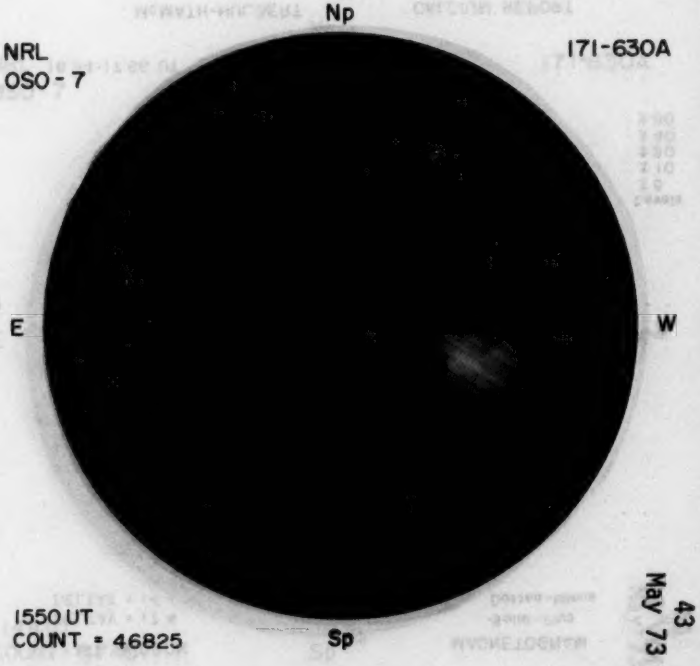
NASA GSFC
OSO - 7



COUNT = 99835
ROLL = 37.7°
P - TH = -6.53

1237 UT

NRL
OSO - 7

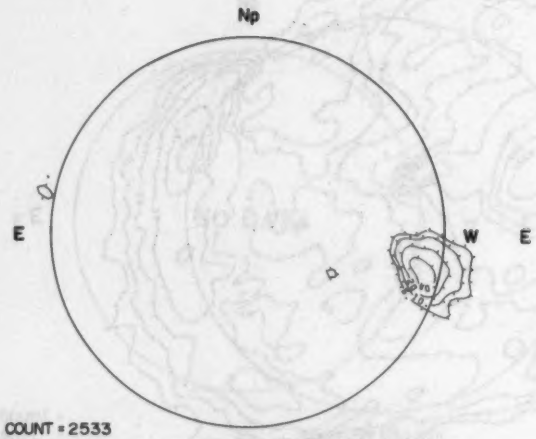


1550 UT
COUNT = 46825

MAY 11, 1973 (P=-22.09, B_o=-3.08, L_o=287.43)

NASA GSFC
OSO-7

X-RAY



COUNT = 2533
ROLL = 37.3°
P-TH = -6.58

11:36 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

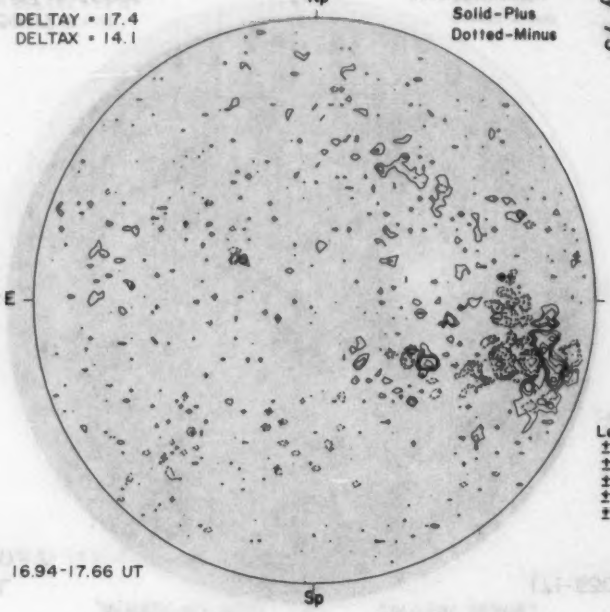
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

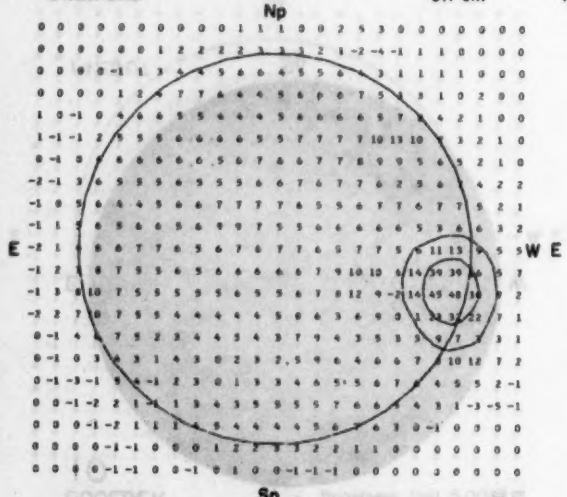


Levels
±5
±10
±20
±40
±80

16.94-17.66 UT

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

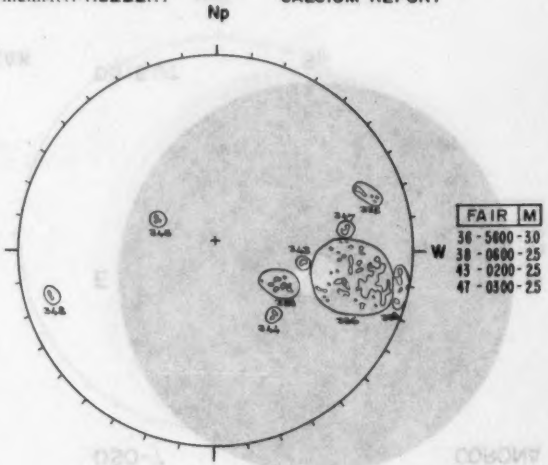
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

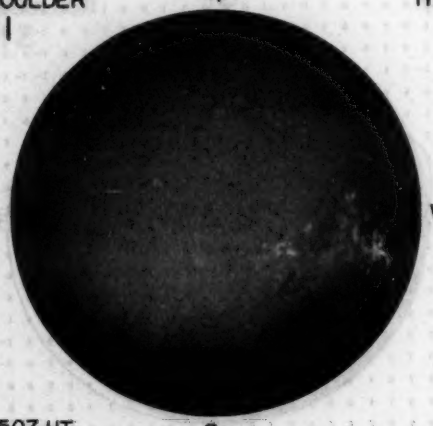
McMATH-HULBERT

CALCIUM REPORT



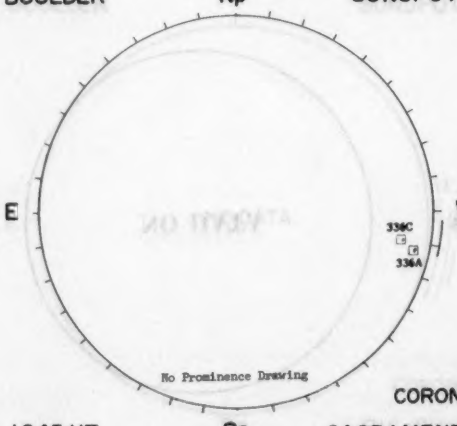
1240 UT

BOULDER Np Hα
11



1507 UT Sp

BOULDER Np SUNSPOTS



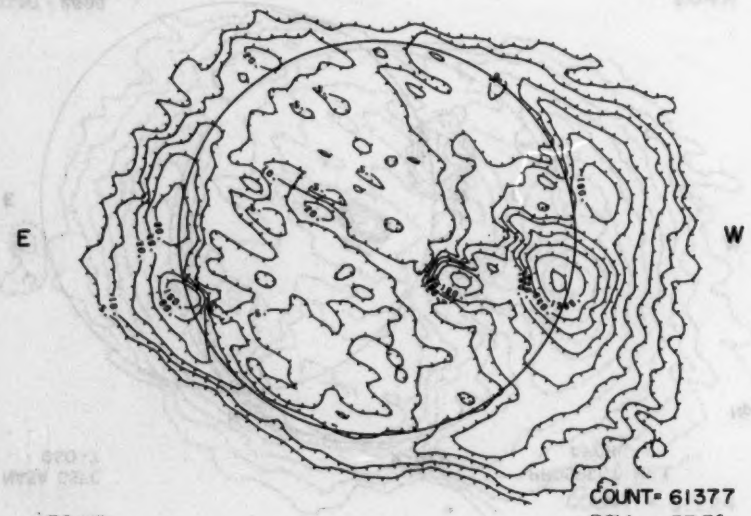
1645 UT Sp

CORONA
SACRAMENTO PEAK

NRL Np WHITE-LIGHT
OSO-7 CORONA

0816 UT Sp

NASA GSFC Np
OSO-7

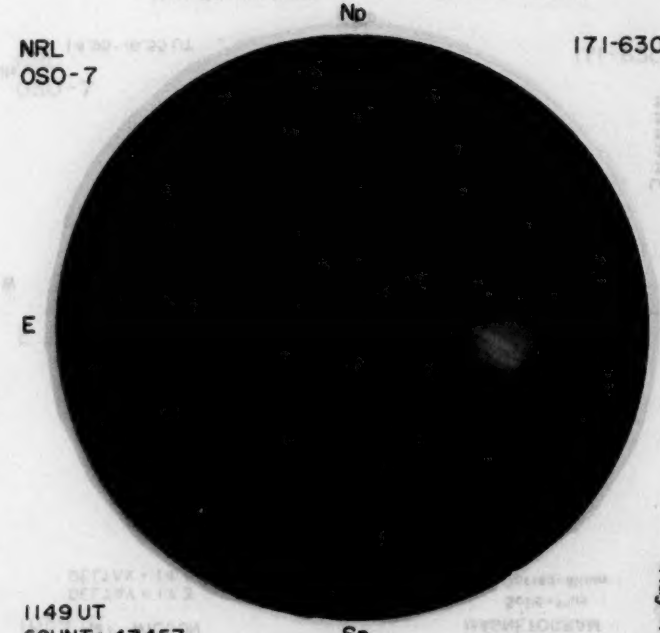


COUNT= 61377
ROLL = 37.3°
P-TH = -6.58

1136 UT Sp

FE XV
284A

NRL Np 171-630A
OSO-7

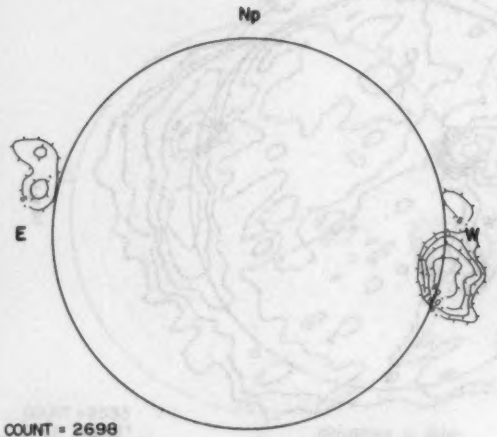


1149 UT Sp
COUNT= 47457

MAY 12, 1973 (P=-21.84, B_o=-2.97, L_o=274.20)

NASA GSFC
OSO-7

X-RAY



COUNT = 2698
ROLL = 37.1°
P-TH = -6.64

1347 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

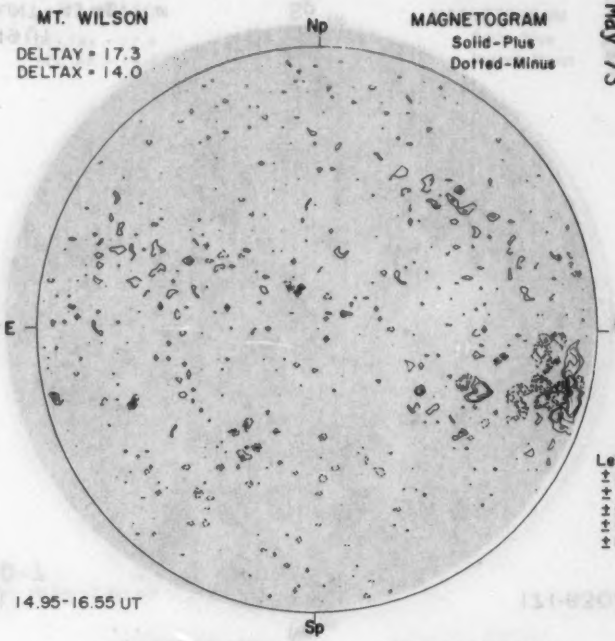
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.3
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

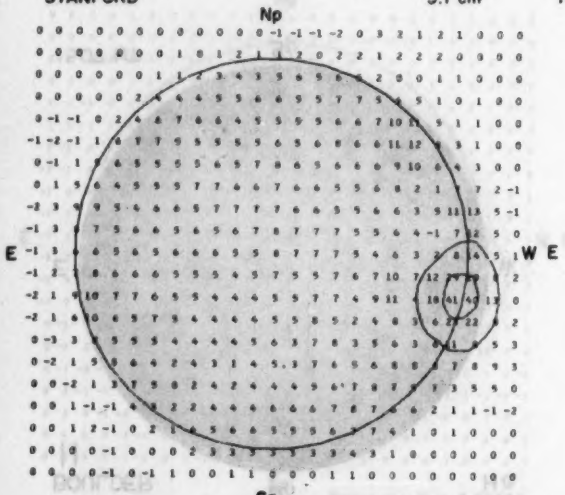


Levels
±5
±10
±20
±40
±80

14.95-16.55 UT

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

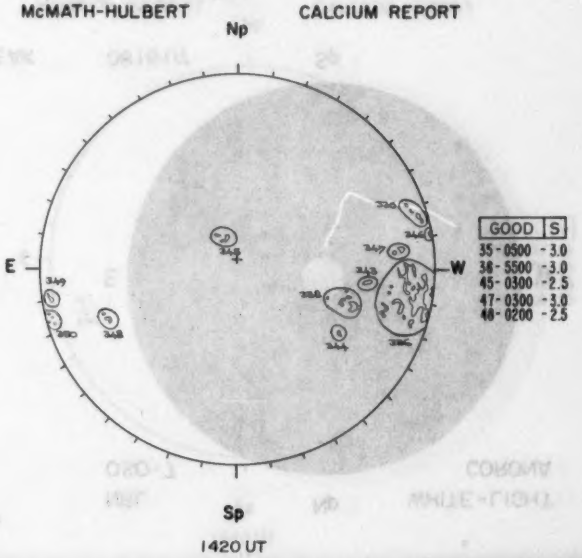
21 cm

02-03 UT

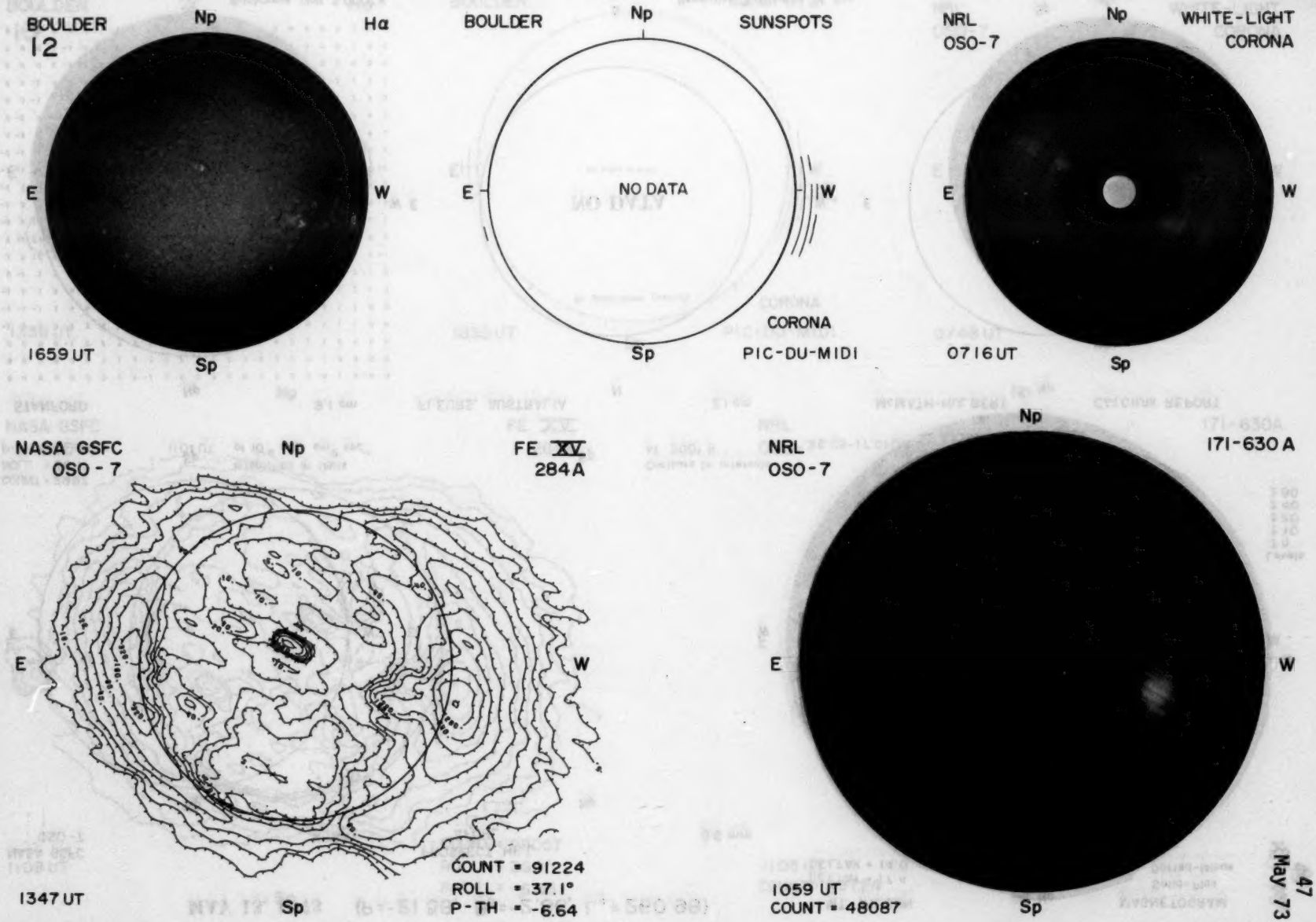
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



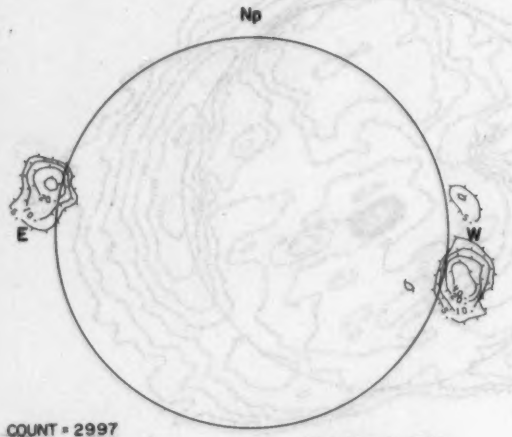
1420 UT


BOULDER
12
Np
Hα
E
W
1659 UT
Sp
BOULDER
Np
SUNSPOTS
E
NO DATA
W
CORONA
Sp
PIC-DU-MIDI
NRL
OSO-7
Np
WHITE-LIGHT
CORONA
E
W
0716 UT
Sp
NASA GSFC
OSO - 7
Np
FE XV
284A
E
W
1347 UT
Sp
COUNT = 91224
ROLL = 37.1°
P-TH = -6.64
NRL
OSO-7
Np
171-630 A
E
W
1059 UT
COUNT = 48087
Sp

MAY 13, 1973 (P=-21.58, B_o=-2.86, L_o=260.98)

NASA GSFC
OSO-7

X-RAY



COUNT = 2997
ROLL = 36.1°
P-TH = -6.68

1101 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

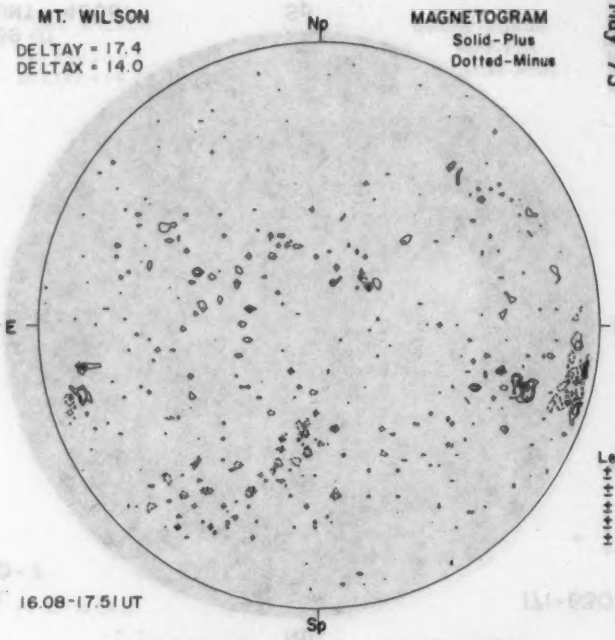
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

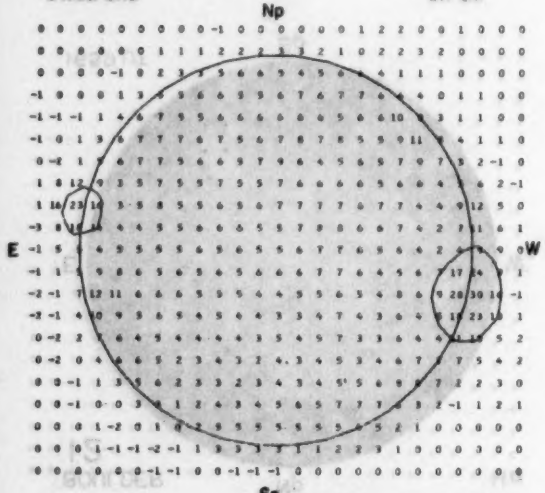


Levels
±5
±10
±20
±40
±80

16.08-17.51 UT

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

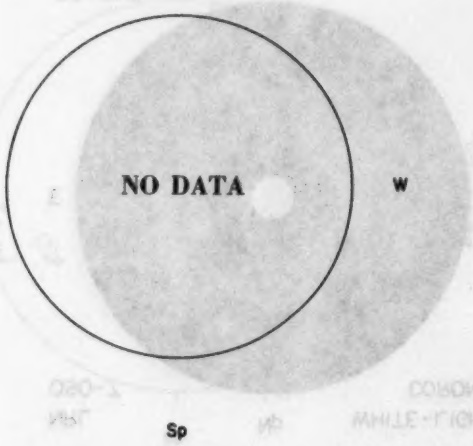
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



20-21 UT

02-03 UT Brightness Unit 1,700° K

BOULDER
13

Np

Hα

E

W

Sp

1338 UT

BOULDER

Np

SUNSPOTS

NO SPOTS VISIBLE

E

W

198

214

No Prominence Drawing

CORONA

1830 UT

Sp

PIC-DU-MIDI

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

0748 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A

E

COUNT = 95057
ROLL = 36.1°
P-TH = -6.68

1109 UT

Sp

NRL
OSO-7

Np

171-630A

E

W

1105 UT
COUNT = 49724

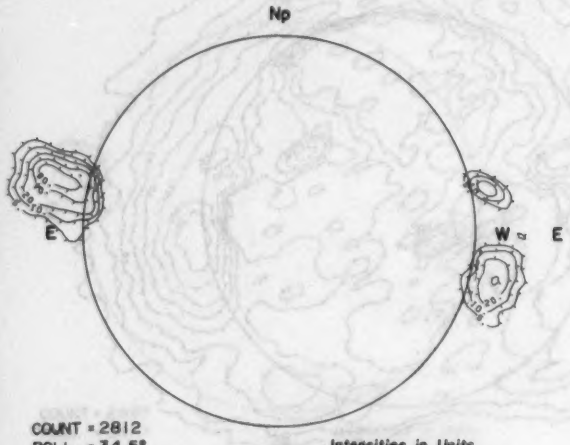
Sp

49
May 73

MAY 14, 1973 (P=-21.32, B_o=-2.75, L_o=247.75)

NASA GSFC
OSO-7

X-RAY



COUNT = 2812
ROLL = 34.5°
P-TH = -6.73

1023 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

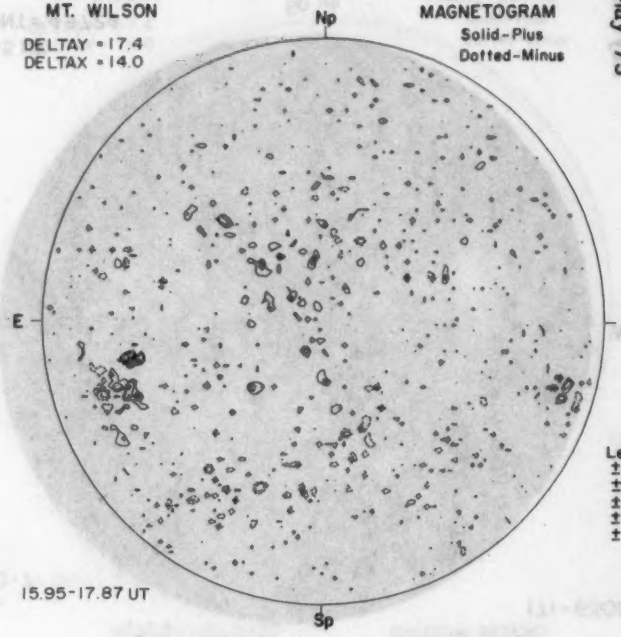
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

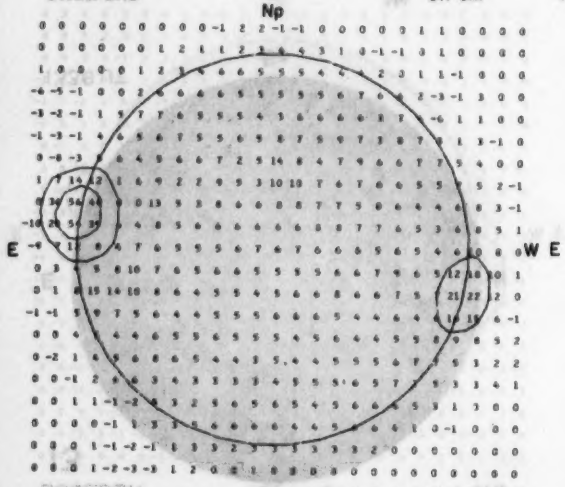


Levels
±5
±10
±20
±40
±80

15.95-17.87 UT

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

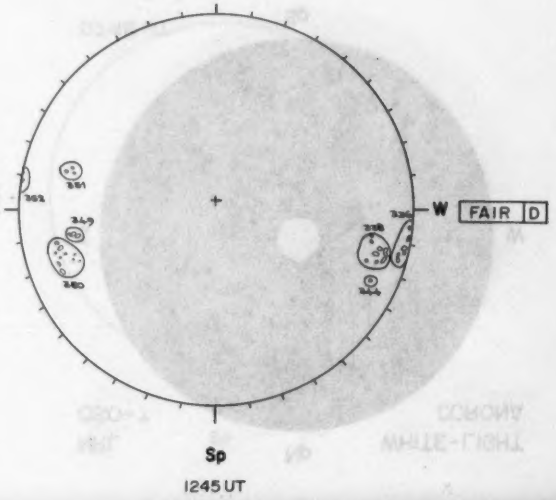
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



1245 UT

20-21 UT
Brightness Unit 5,000° K

02-03 UT
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1245 UT

BOULDER
14
Np
Hα
E
W
1235 UT
Sp

BOULDER
Np
SUNSPOTS
E
W
349
No Prominence Drawing
CORONA
1500 UT
Sp
NO DATA

NRL
OSO-7
Np
WHITE-LIGHT
CORONA
E
W
0211 UT
Sp

NASA GSFC
OSO-7
Np
E
COUNT = 87231
ROLL = 34.5°
P-TH = -6.73
1023 UT
Sp

FE XV
284A

NRL
OSO-7
Np
171-630A
E
W
1012 UT
COUNT = 49407
Sp

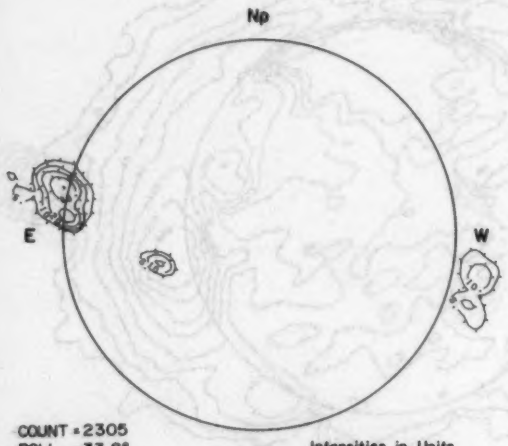
51
May 73

MAY 15, 1973 (P=-21.05, B_o=-2.64, L_o=234.53)

52 May 73

NASA GSFC
OSO-7

X-RAY



COUNT = 2305
ROLL = 33.8°
P-TH = -6.78

1233 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

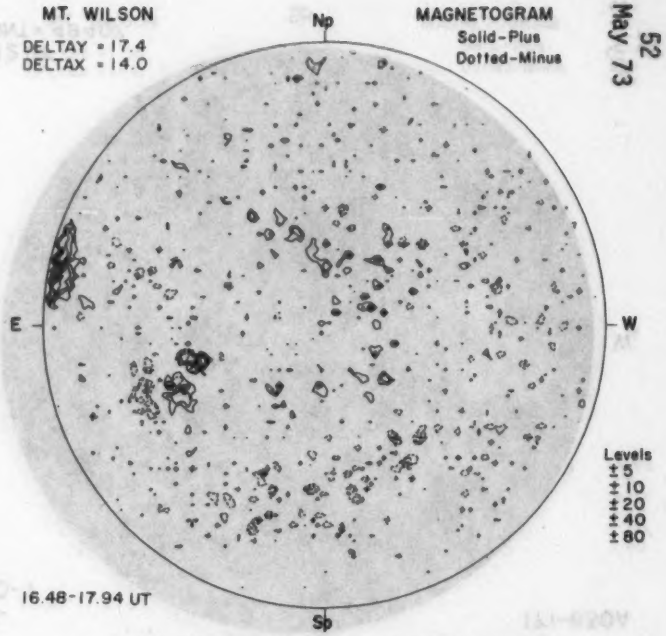
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

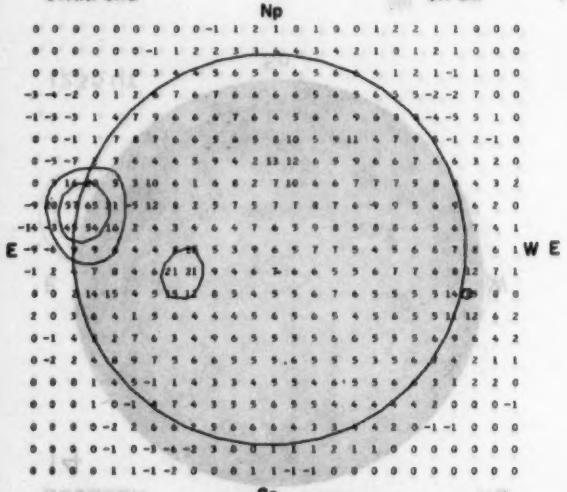


Levels
±5
±10
±20
±40
±80

16.48-17.94 UT

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

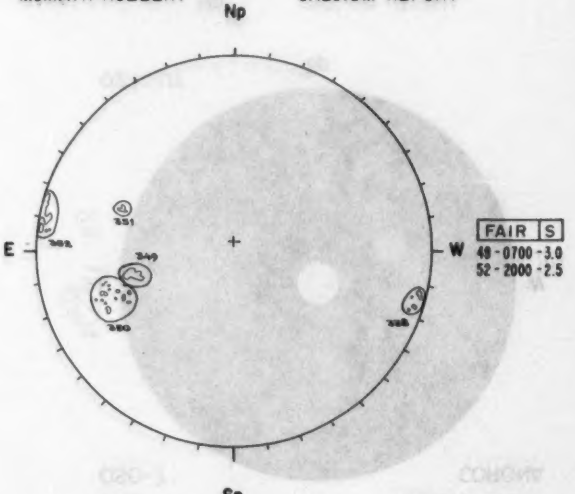
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



1140 UT

BOULDER

Np

BOULDER

Np

SUNSPOTS

20-21 UT

02-03 UT Brightness Unit 1,700° K

1140 UT

BOULDER

15

Np

Hα

E

W

Sp

1356 UT

BOULDER

Np

SUNSPOTS

E

W

Sp

1400 UT

CORONA

NO DATA

NRL

OSO-7

Np

WHITE-LIGHT

CORONA

E

W

Sp

0717 UT

Np

NASA GSFC

OSO-7

FE XV

284A

E

COUNT = 80673

ROLL = 33.8°

P-TH = -6.78

Sp

1233 UT

NRL

OSO-7

Np

171-630A

E

W

Sp

1043 UT

COUNT = 49847

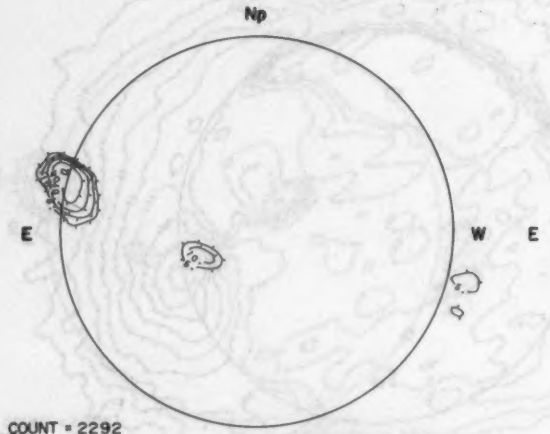
53

May 73

MAY 16, 1973 (P=-20.77, B_o=-2.52, L_o=221.30)

NASA GSFC
OSO-7

X-RAY



COUNT = 2292
ROLL = 33.7°
P-TH = -6.82

1107 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

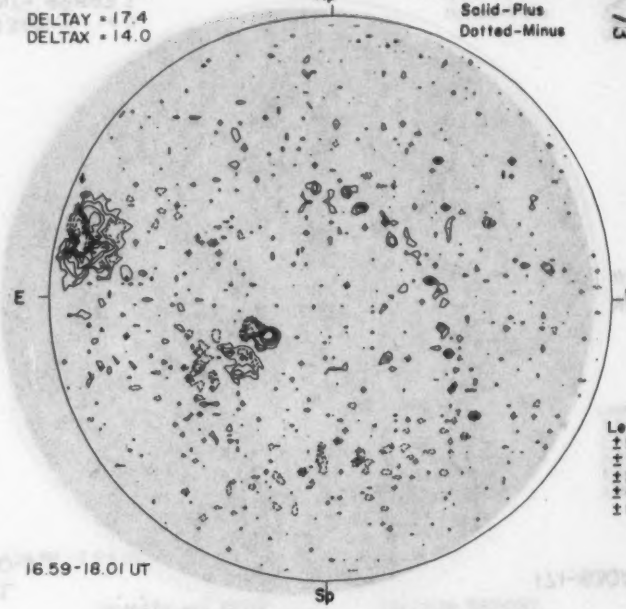
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

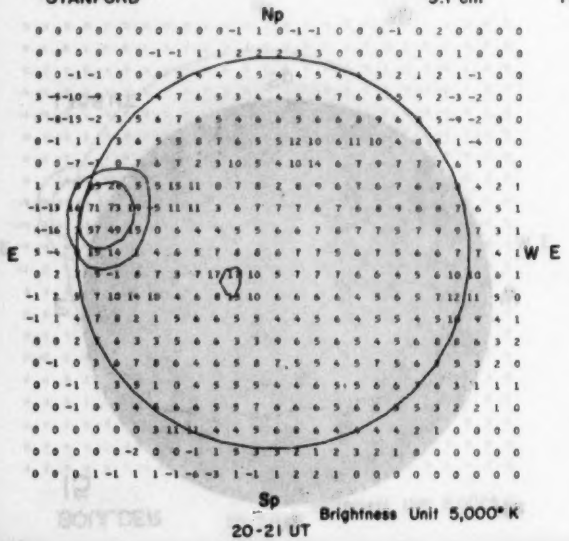


Levels
±5
±10
±20
±40
±80

16.59-18.01 UT

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

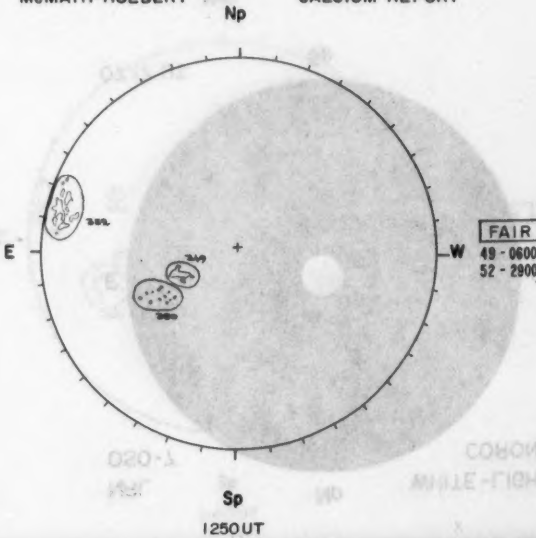
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1250 UT

20-21 UT

02-03 UT Brightness Unit 1,700° K

1250UT

BOULDER
16

Np

Hα

E

W

1316 UT

Sp

BOULDER

Np

SUNSPOTS

3528

3528A

349

E

W

1455 UT

Sp

CORONA

SACRAMENTO PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

0748 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A

E

COUNT = 77177
ROLL = 33.7°
P-TH = -6.82

1107UT

Sp

NRL
OSO-7

Np

171-630A

E

W

1120 UT
COUNT= 51059

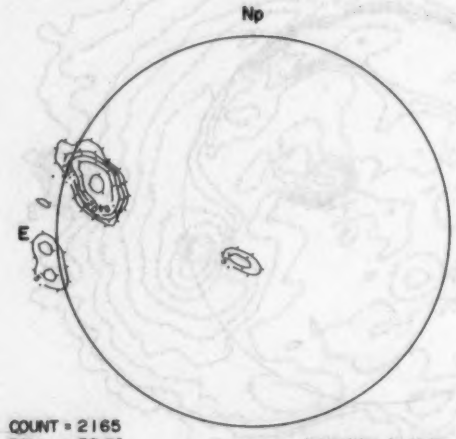
Sp

55
May 73

MAY 17, 1973 (P=-20.49, B_o=-2.41, L_o=208.07)

NASA GSFC
OSO-7

X-RAY



COUNT = 2165
ROLL = 33.7°
P-TH = -6.86

1156 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

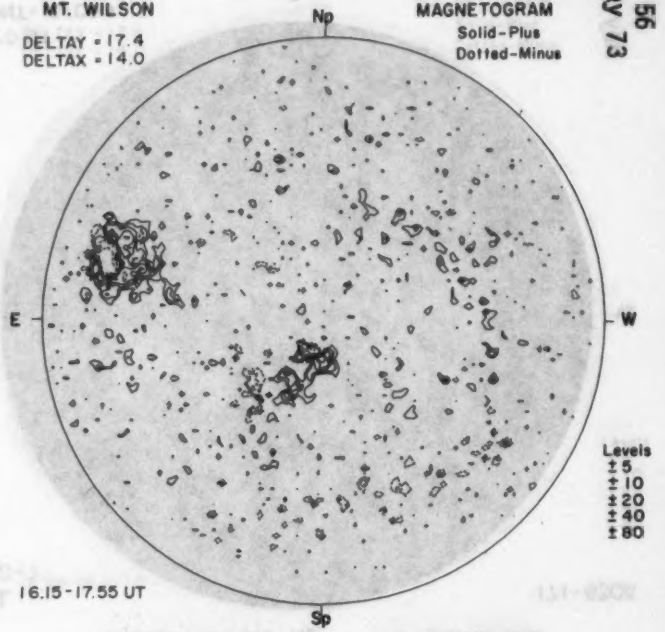
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

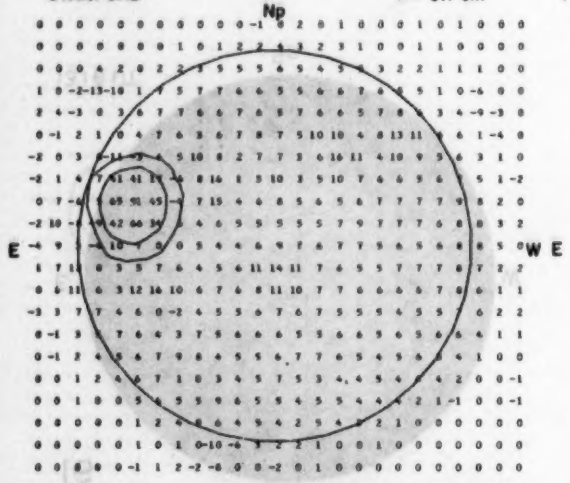


Levels
±5
±10
±20
±40
±80

16.15-17.55 UT

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

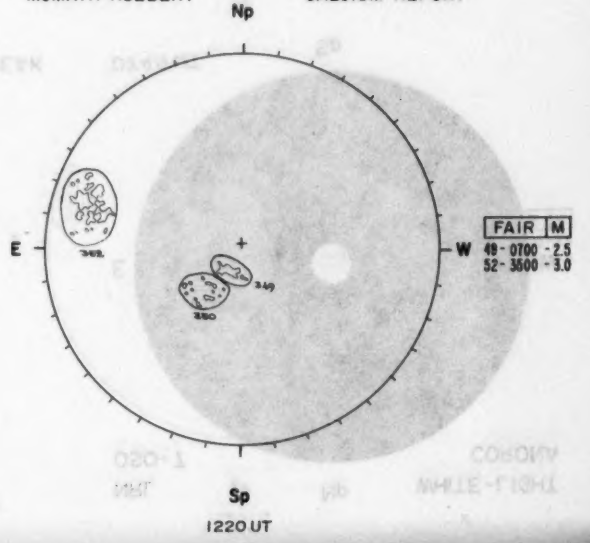
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



1220 UT

20-21 UT

Brightness Unit 3,000° K

02-03 UT

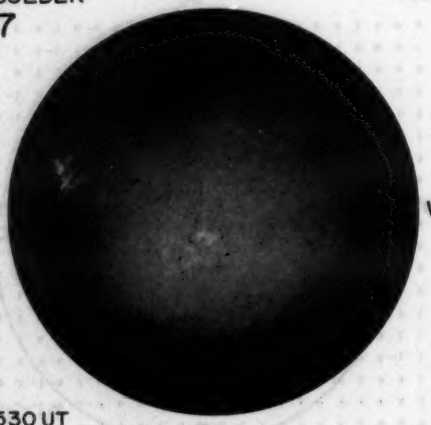
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1220 UT

BOULDER
17

Np

Hα

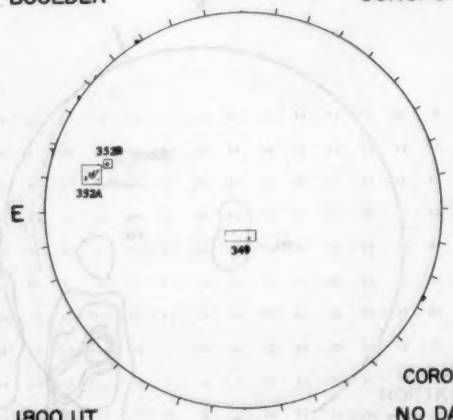


1530 UT

BOULDER

Np

SUNSPOTS



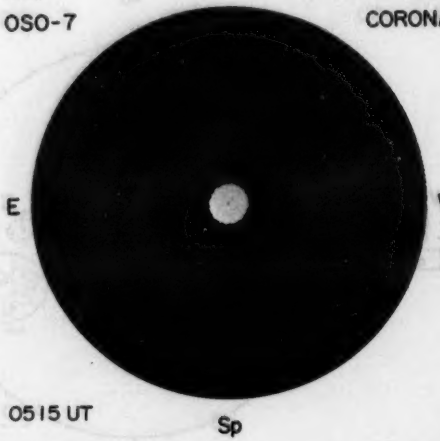
1800 UT

CORONA
NO DATA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

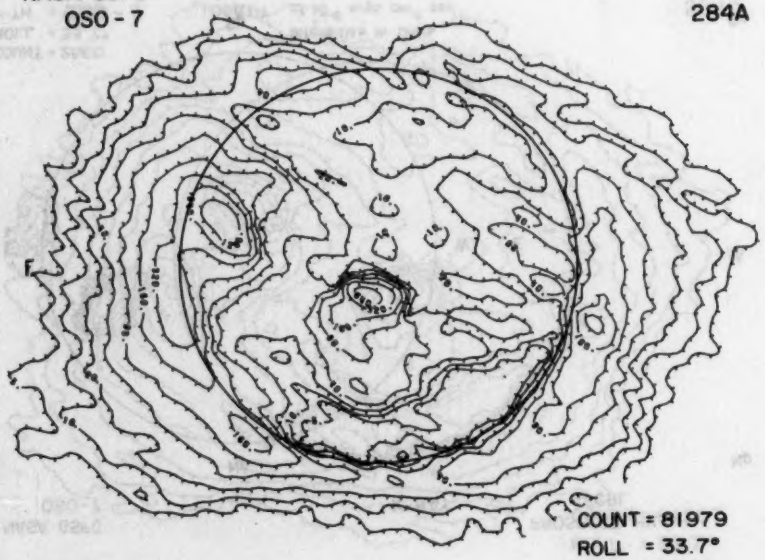


0515 UT

Np

NASA GSFC
OSO-7

FE XV
284A



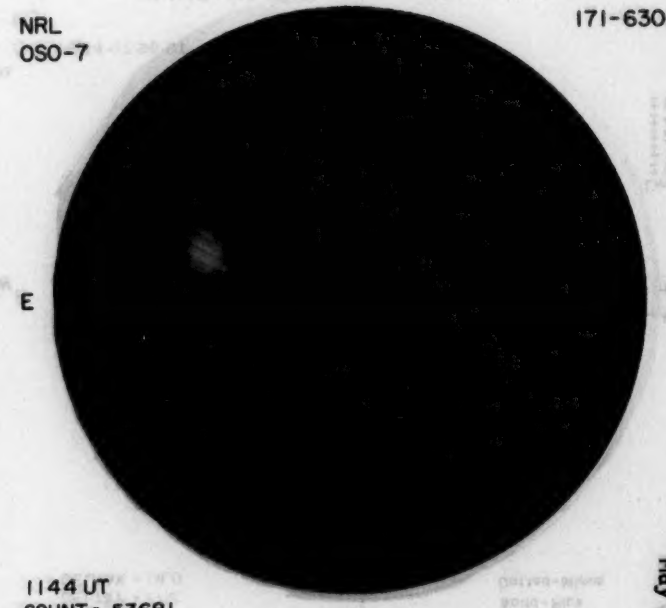
COUNT = 81979
ROLL = 33.7°
P-TH = -6.86

1156 UT

Np

NRL
OSO-7

171-630A



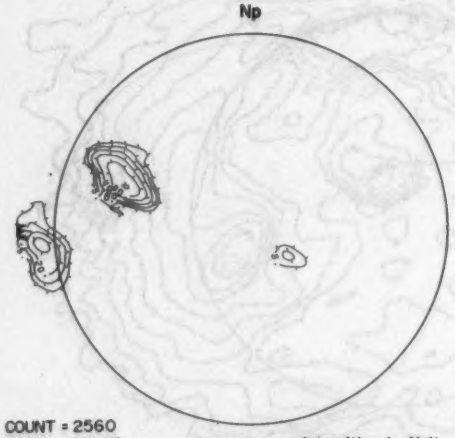
1144 UT
COUNT = 53681

57
May 73

MAY 18, 1973 (P=-20.20, B_o=-2.29, L_o=194.85)

NASA GSFC
OSO-7

X-RAY



COUNT = 2560
ROLL = 33.7°
P-TH = -6.90

1056 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

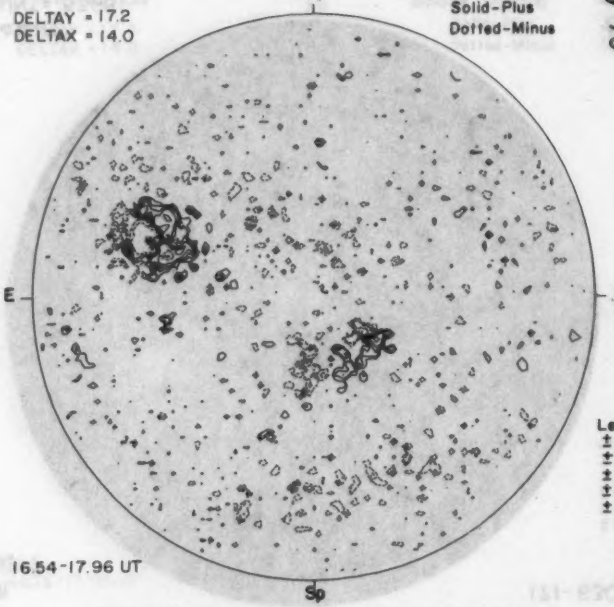
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

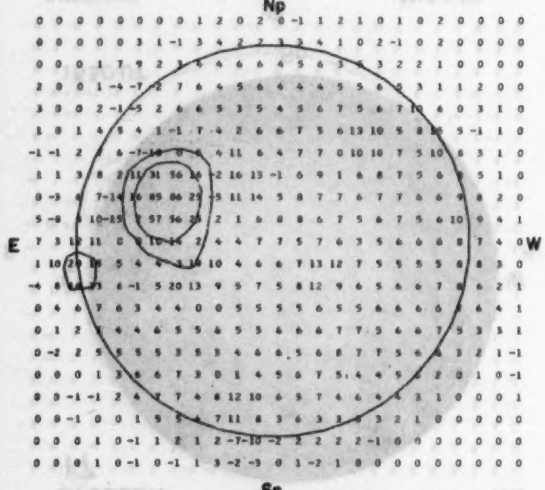


Levels
±5
±10
±20
±40
±80

16.54-17.96 UT

STANFORD

9.1 cm

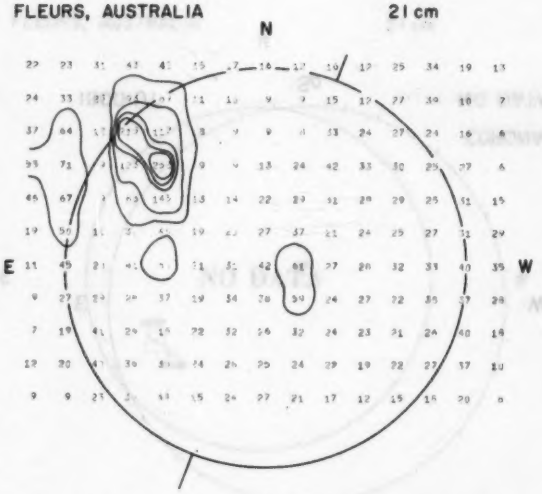


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

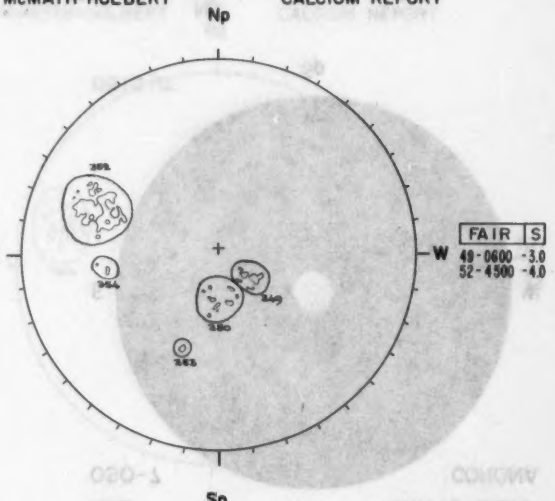


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1120 UT

20-21 UT

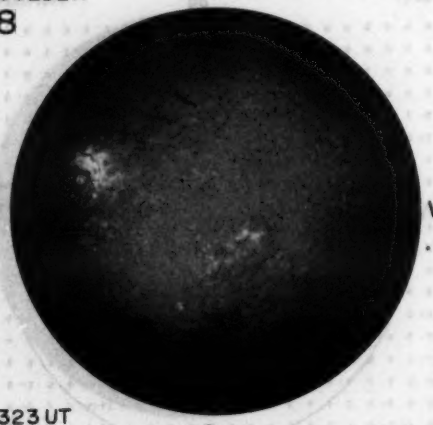
02-03 UT Brightness Unit 1,700° K

1120 UT

BOULDER
18

Np

Hα



E

W

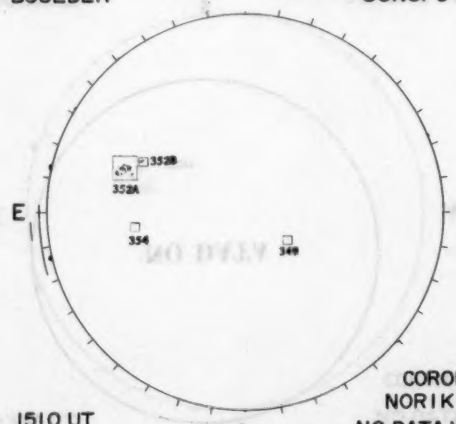
Sp

1323 UT

BOULDER

Np

SUNSPOTS



E

W

Sp

1510 UT

CORONA
NORIKURA
NO DATA W. LIMB

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

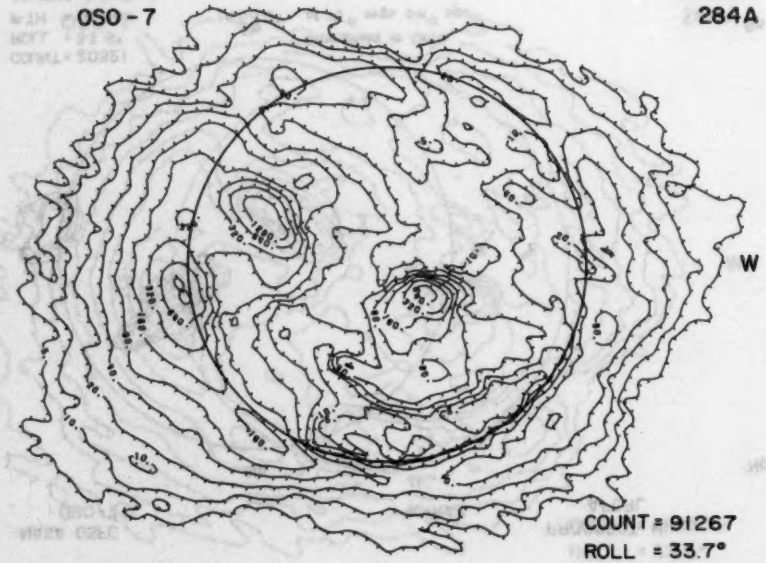
Sp

0546 UT

NASA GSFC
OSO-7

Np

FE XV
284A



W

COUNT = 91267
ROLL = 33.7°
P-TH = -6.90

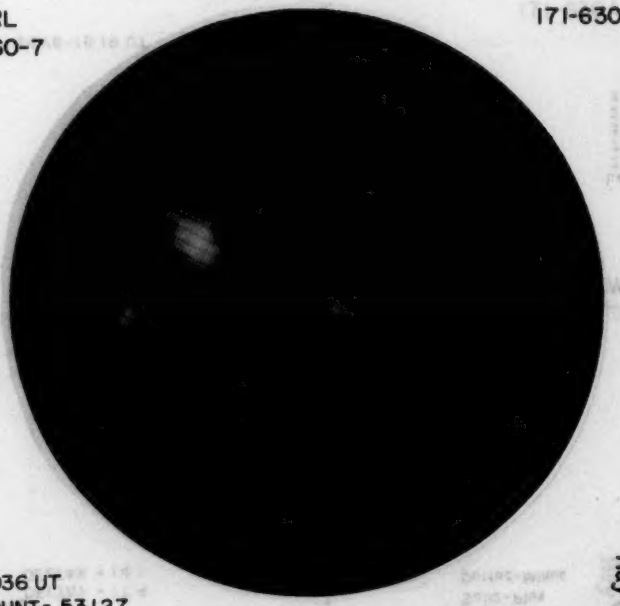
Sp

1056 UT

NRL
OSO-7

Np

171-630A



E

W

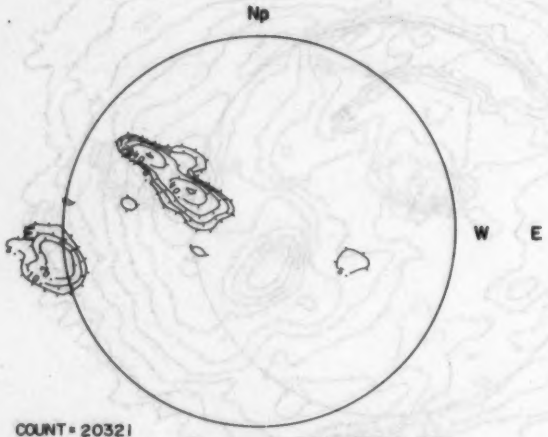
Sp

1036 UT
COUNT = 53127

MAY 19, 1973 (P=-19.90, B_o=-2.18, L_o=181.62)

NASA GSFC
OSO-7

X-RAY



COUNT = 20321
ROLL = 33.6°
P-TH = -6.94

1434 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

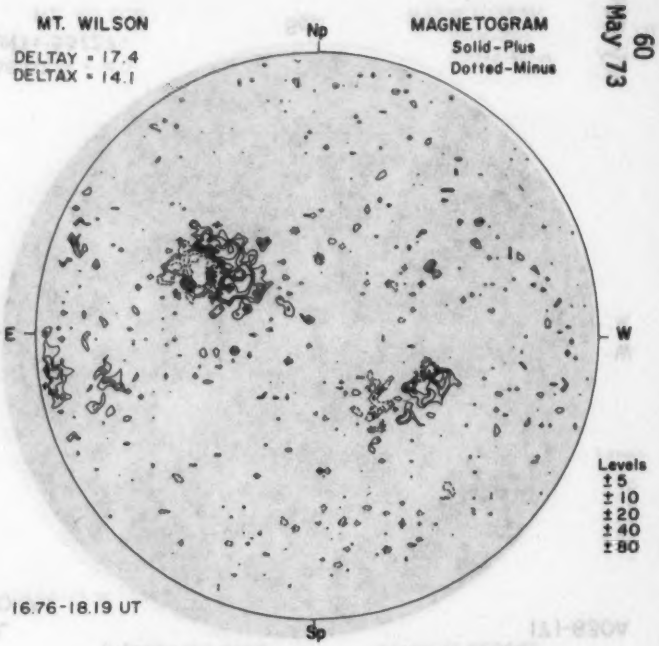
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.4
DELTAX = 14.1

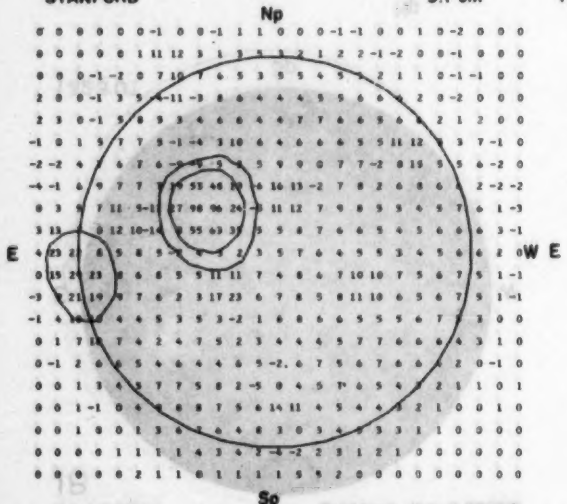
MAGNETOGRAM
Solid-Plus
Dotted-Minus



16.76-18.19 UT

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

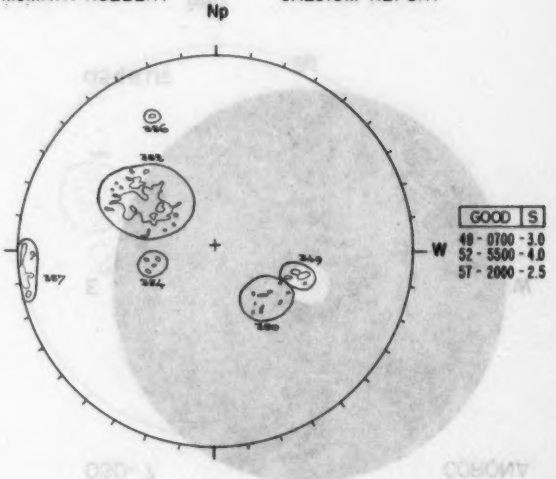
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1735 UT

NRL

WHITE-LIGHT

20-21 UT

02-03 UT Brightness Unit 1,700° K

1735 UT

BOULDER
19

Np

Hα

E

W

1328 UT

Sp

BOULDER

Np

SUNSPOTS

3528

3524

E

W

CORONA

NO DATA

1335 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

2042 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A

W

COUNT = 113500
ROLL = 33.6°
P-TH = -6.94

1406 UT

Sp

NRL
OSO-7

Np

171-630A

E

NO DATA

W

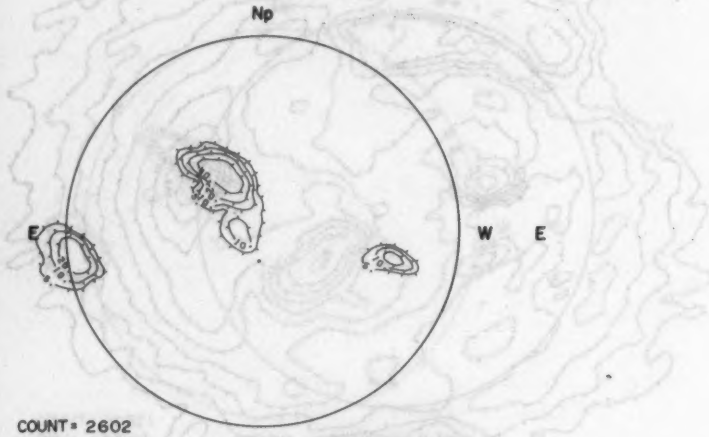
COUNT =

Sp

61
May 73

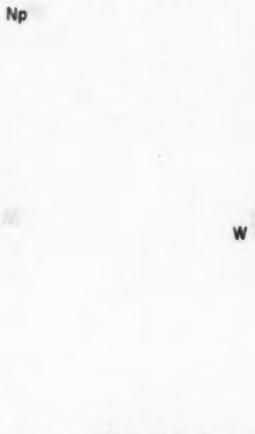
MAY 20, 1973 (P=-19.60, B_o=-2.06, L_o=168.39)

NASA GSFC
OSO-7
X-RAY



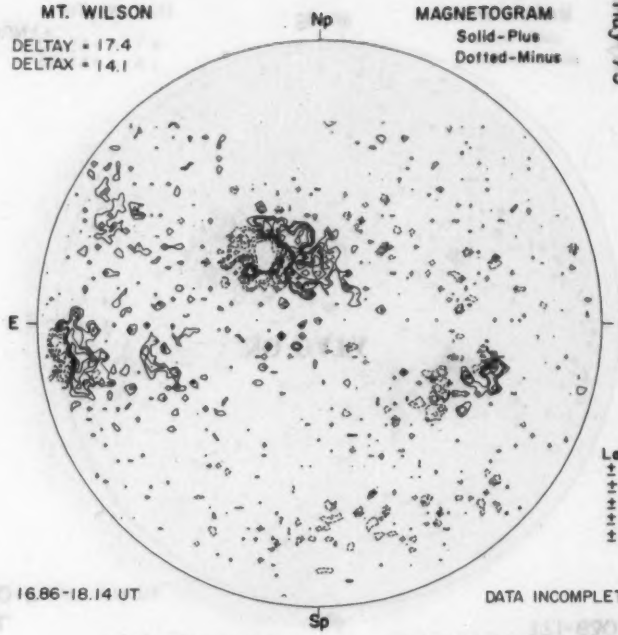
COUNT = 2602
ROLL = 33.5°
P-TH = -6.97
1023 UT
Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL
8.6 mm



Contours in Intervals of 200° K

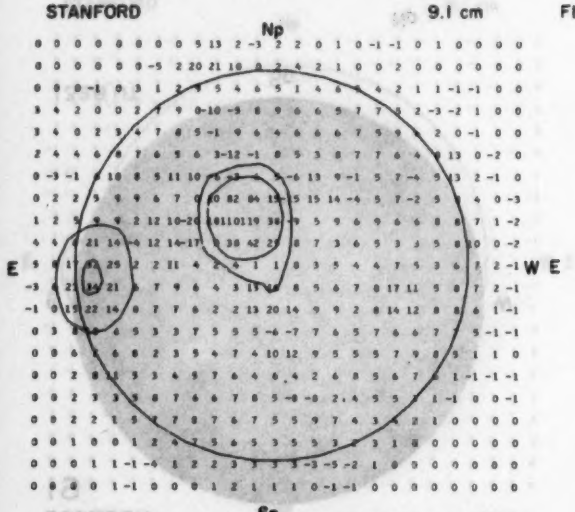
MT. WILSON
DELTAY = 17.4
DELTAX = 14.1
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

16.86-18.14 UT
DATA INCOMPLETE

STANFORD
9.1 cm

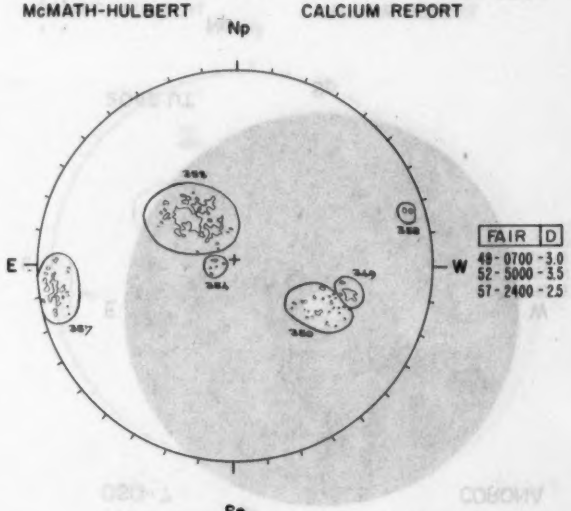


20-21 UT
Brightness Unit 5,000° K

FLEURS, AUSTRALIA
21 cm

02-03 UT
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT
CALCIUM REPORT



1207 UT

BOULDER
Np
Hα

BOULDER
Np

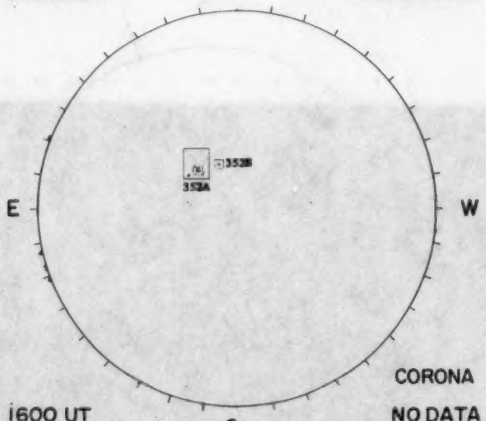
SUNSPOTS
NRL
Np

WHITE-LIGHT
Np

BOULDER
20

1346 UT

BOULDER



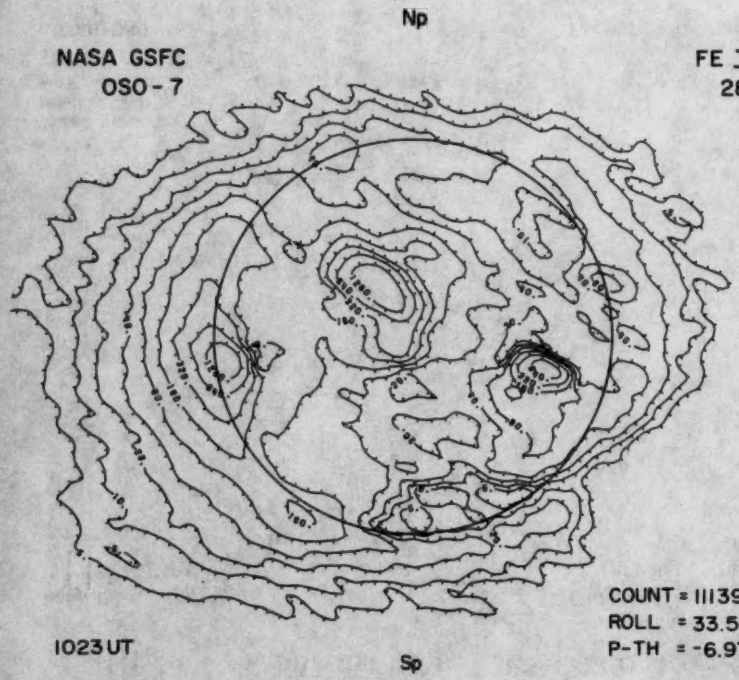
1600 UT

CORONA
NO DATA

NRL
OSO-7

2113 UT

NASA GSFC
OSO-7

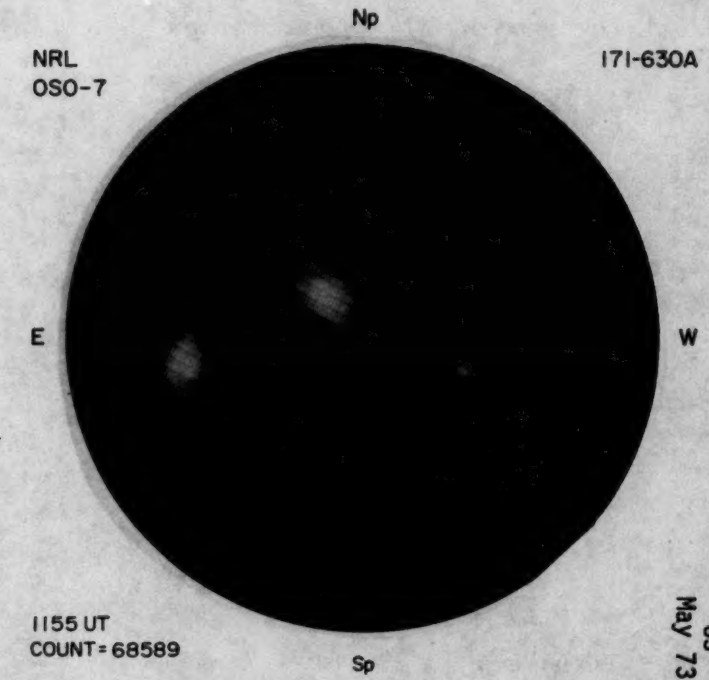


1023 UT

FE XV
284A

COUNT = 111397
ROLL = 33.5°
P-TH = -6.97

NRL
OSO-7



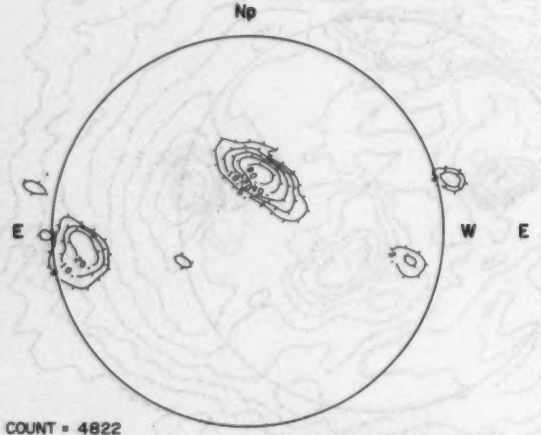
1155 UT
COUNT = 68589

63
May 73

MAY 21, 1973 (P=-19.29, B_o=-1.94, L_o=155.16)

NASA GSFC
OSO-7

X-RAY



COUNT = 4822
ROLL = 33.5°
P-TH = -7.00

1156 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

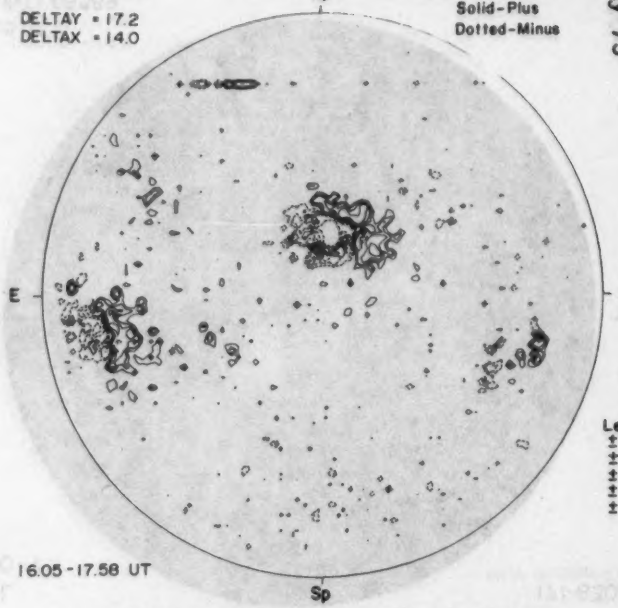
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

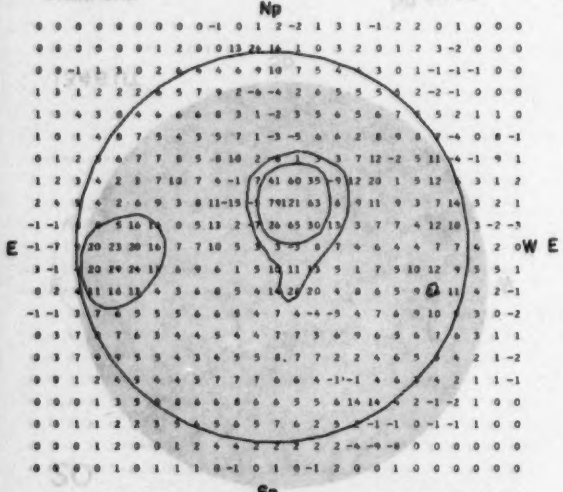


Levels
±5
±10
±20
±40
±80

16.05-17.58 UT

STANFORD

9.1 cm

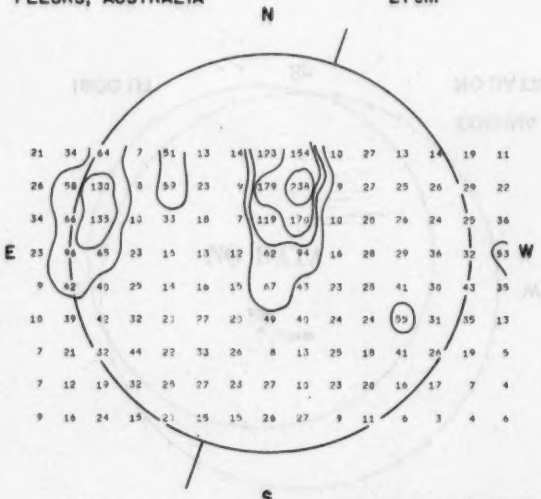


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

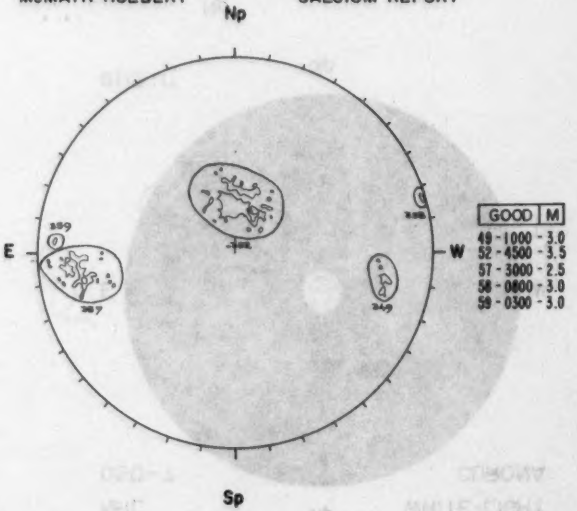
21 cm



02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

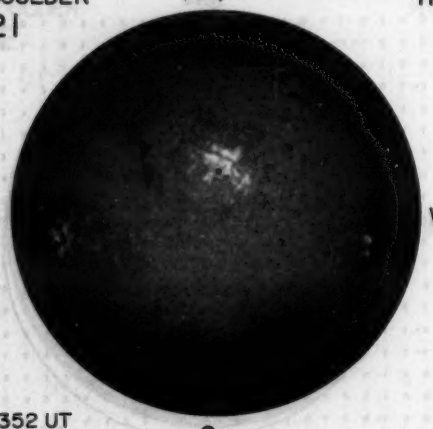


1235 UT

CALCIUM REPORT

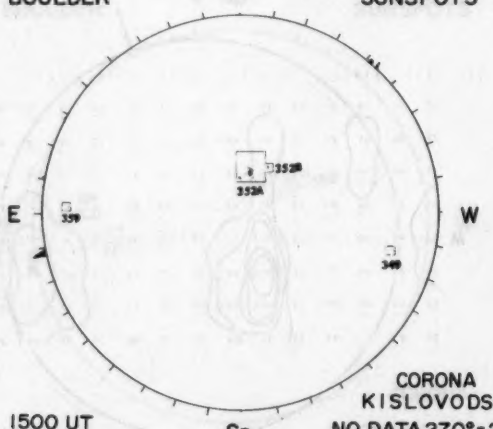
GOOD	M
49 - 1000	- 3.0
52 - 4500	- 3.5
57 - 3000	- 2.5
58 - 0800	- 3.0
59 - 0300	- 3.0

BOULDER
21



1352 UT

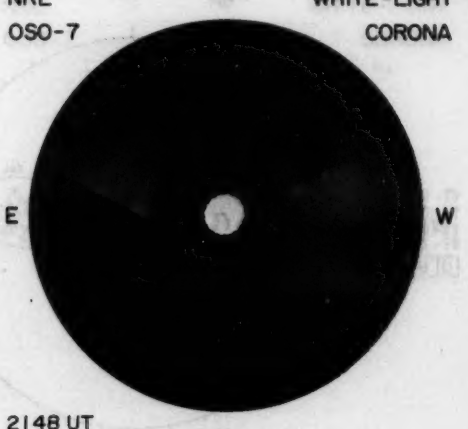
BOULDER



1500 UT

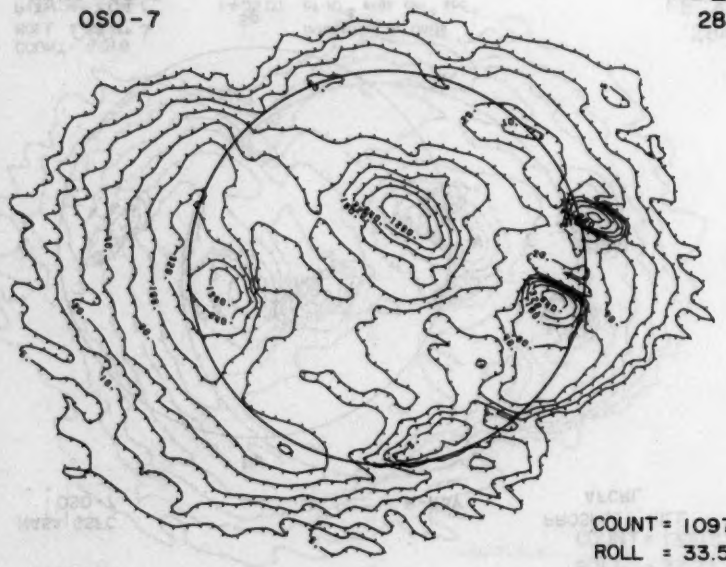
CORONA
KISLOVODSK
NO DATA 270°-285°

NRL
OSO-7



2148 UT

NASA GSFC
OSO-7

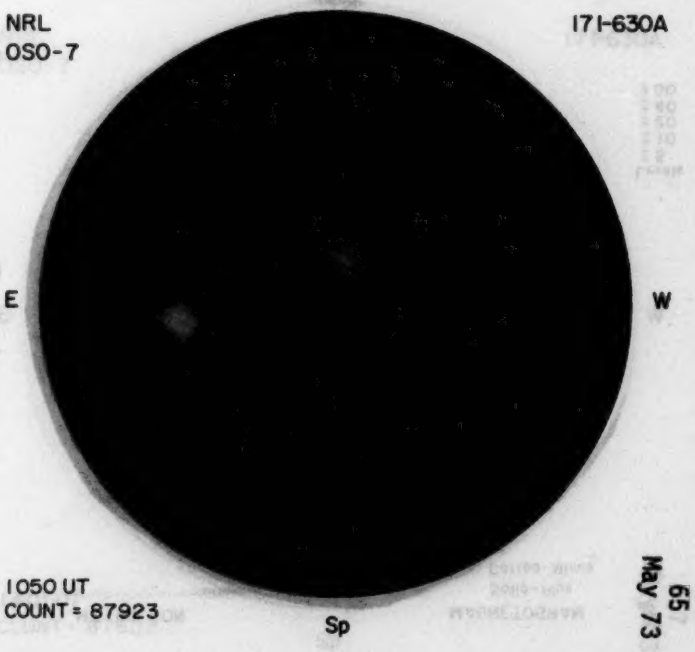


FE XV
284A

1156 UT

COUNT = 109713
ROLL = 33.5°
P-TH = -7.00

NRL
OSO-7



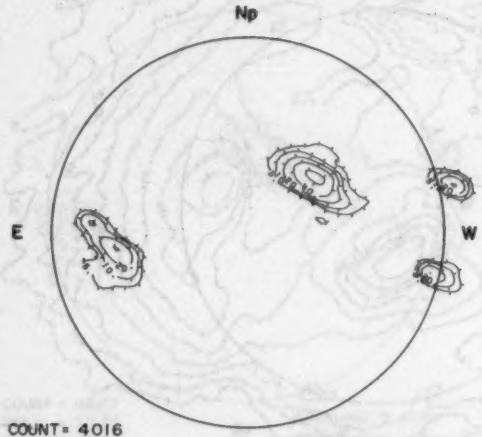
1050 UT
COUNT = 87923

65
May 73

MAY 22, 1973 (P=-18.97, B_o=-1.83, L_o=141.93)

NASA GSFC
OSO-7

X-RAY



COUNT = 4016
ROLL = 33.7°
P-TH = -7.04

1405 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

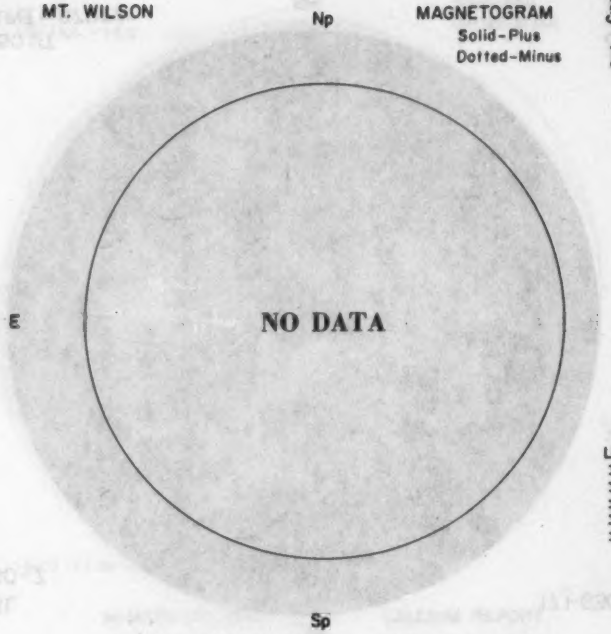
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON

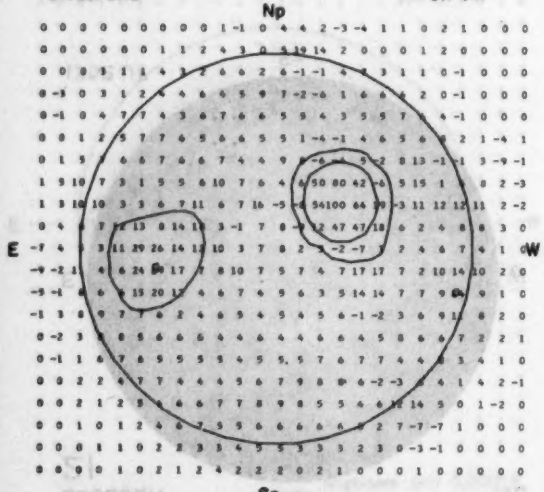
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

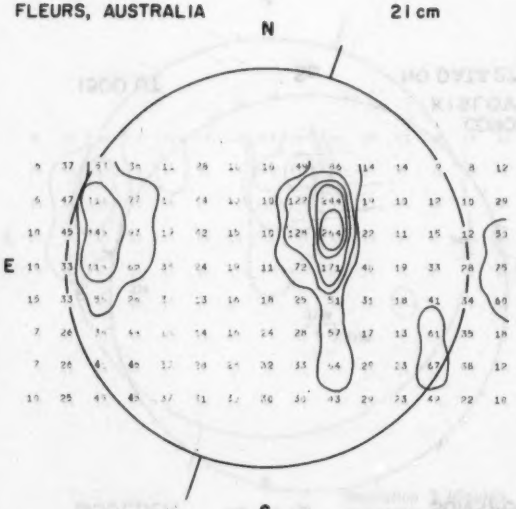


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

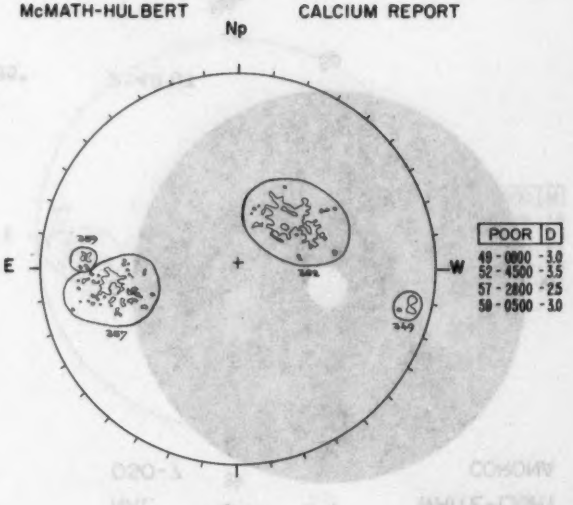


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1235 UT

20-21 UT
Brightness Unit 5,000° K

02-03 UT
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1235 UT

BOULDER
22

Np

Hα

E

W

1329 UT

Sp

Np

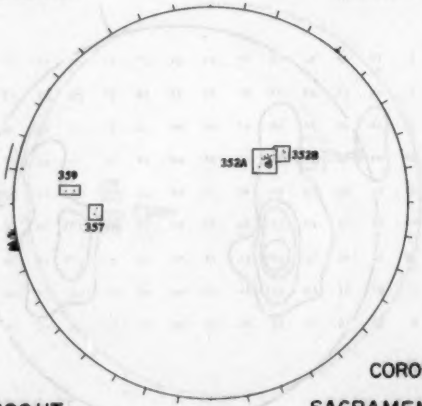
BOULDER

Np

SUNSPOTS

E

W



1800 UT

Sp

CORONA

SACRAMENTO PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

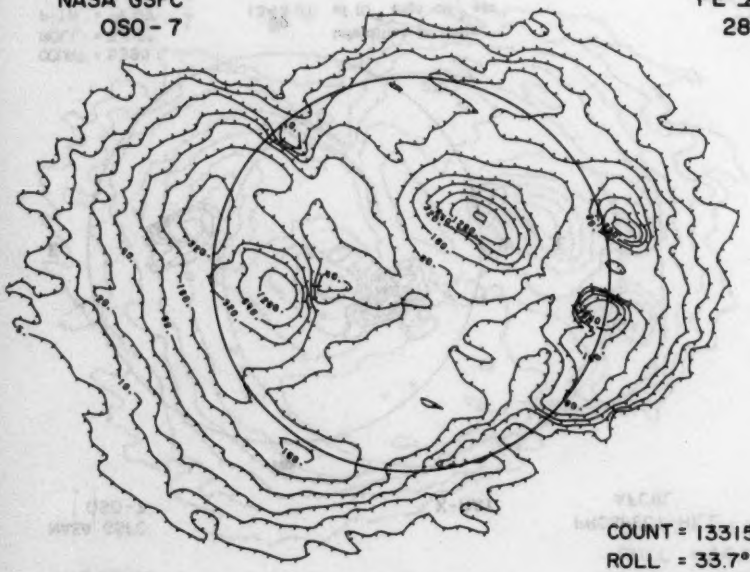
NO DATA

W

Sp

NASA GSFC
OSO-7

FE XV
284A



W

COUNT = 133153
ROLL = 33.7°
P-TH = -7.04

1405 UT

Sp

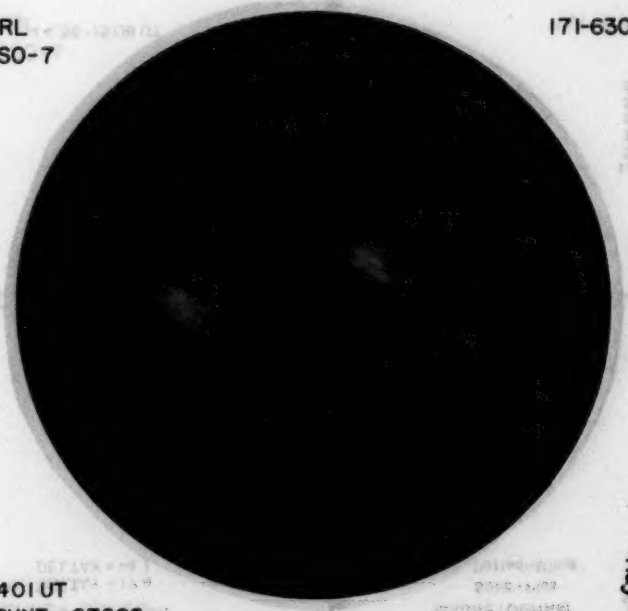
NRL
OSO-7

Np

171-630A

E

W



1401 UT
COUNT = 67602

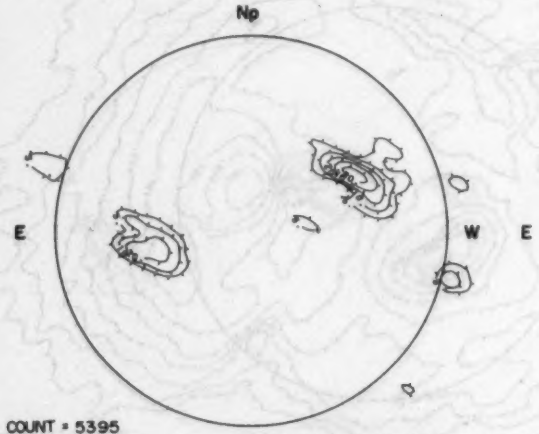
Sp

67
May 73

MAY 23, 1973 (P=-18.65, B_o=-1.71, L_o=128.70)

NASA GSFC
OSO-7

X-RAY



COUNT = 5395
ROLL = 34.2°
P-TH = -7.07

1345 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

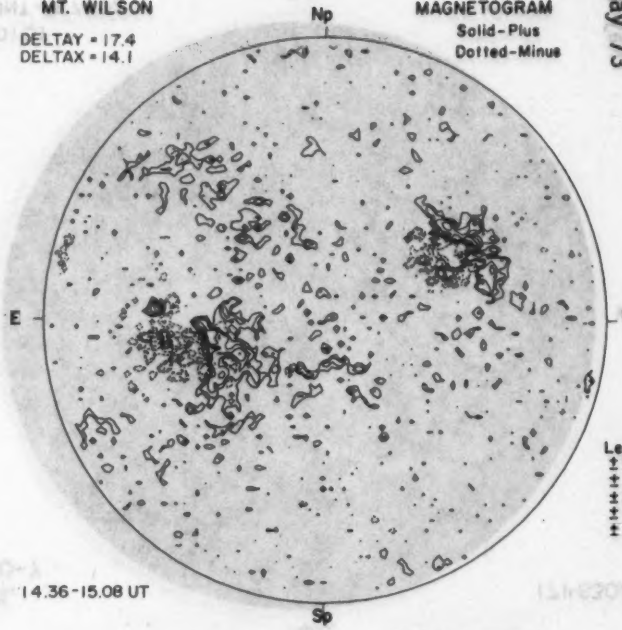
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.4
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

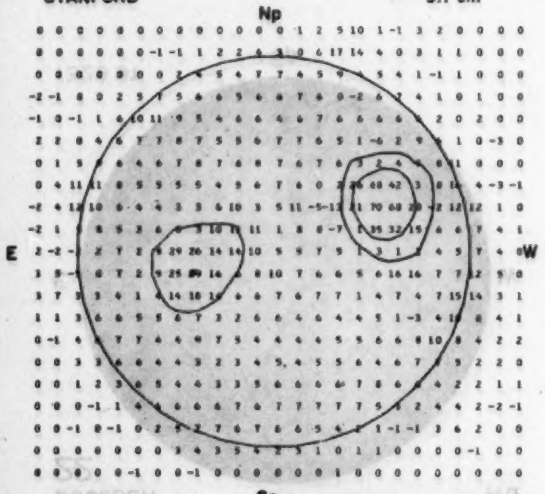


Levels
±5
±10
±20
±40
±80

14.36-15.08 UT

STANFORD

9.1 cm

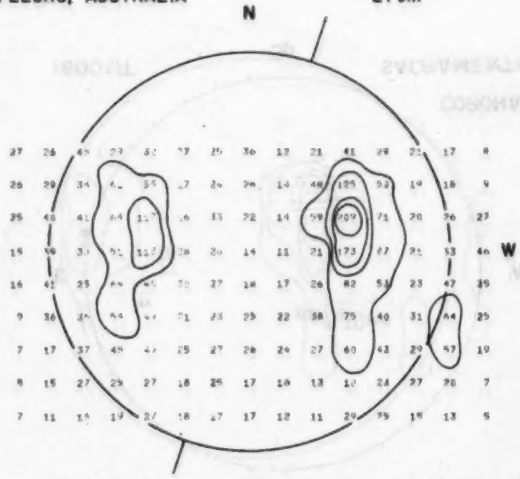


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm



02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

CATANIA

0740 UT

CALCIUM REPORT

FAIR GC
09 - 2410 ---
10 - 7588 ---
12 - 9406 ---

20-21 UT

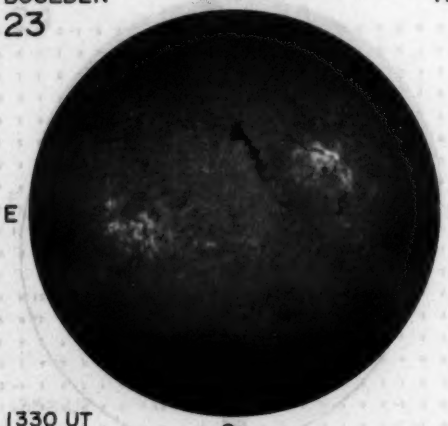
02-03 UT Brightness Unit 1,700° K

0740 UT

BOULDER
23

Np

Hα



E

W

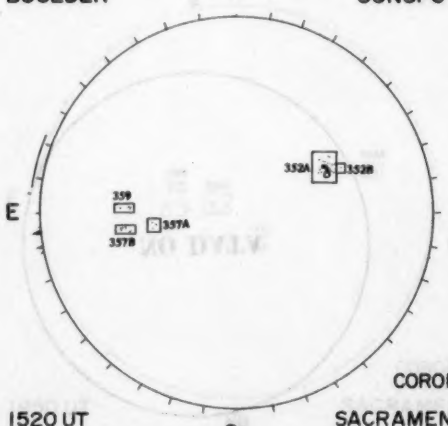
Sp

1330 UT

BOULDER

Np

SUNSPOTS



E

W

CORONA

SACRAMENTO PEAK

1520 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

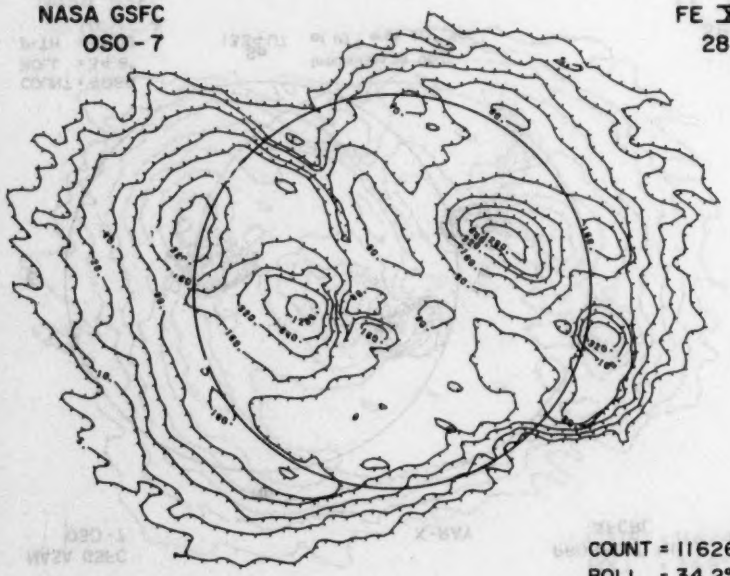
1018 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



W

COUNT = 116263
ROLL = 34.2°
P-TH = -7.07

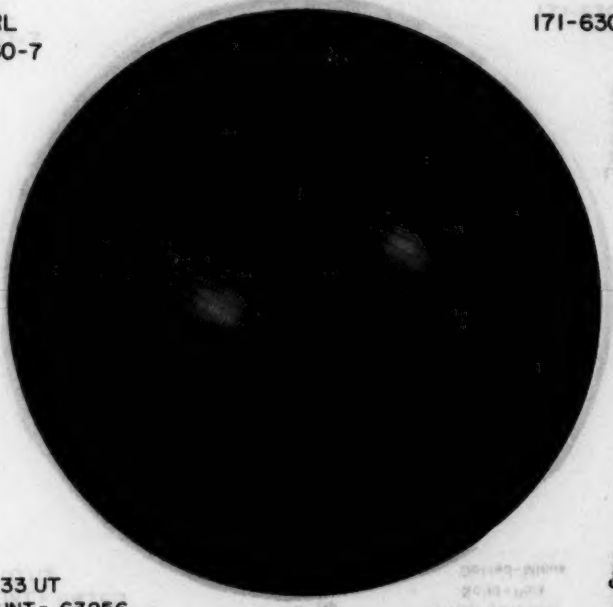
1343 UT

Sp

NRL
OSO-7

Np

171-630A



E

W

1433 UT
COUNT = 63256

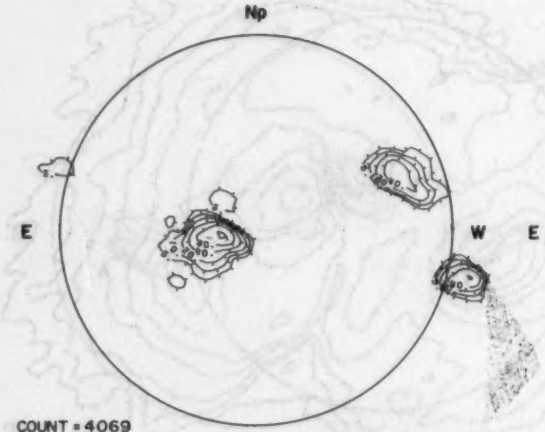
Sp

69
May 73

MAY 24, 1973 (P=-18.33, B_o=-1.59, L_o=115.47)

May 70 73

NASA GSFC
OSO-7
X-RAY



COUNT = 4069
ROLL = 34.6°
P-TH = -7.09

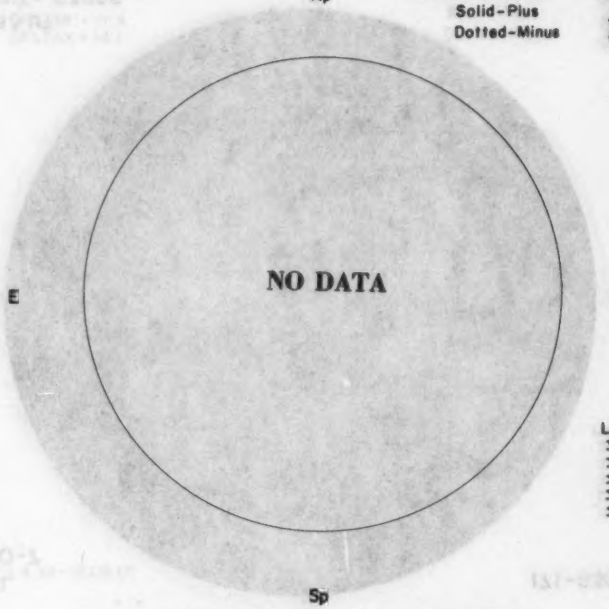
1334 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL
8.6 mm

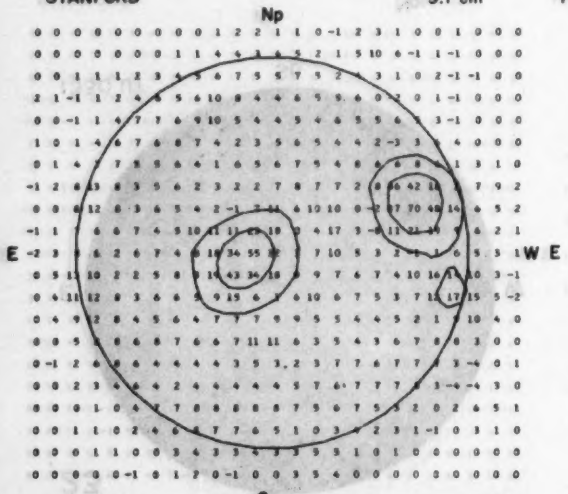
Contours in Intervals of 200° K

MT. WILSON
MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
±5
±10
±20
±40
±80

STANFORD
9.1 cm



20-21 UT

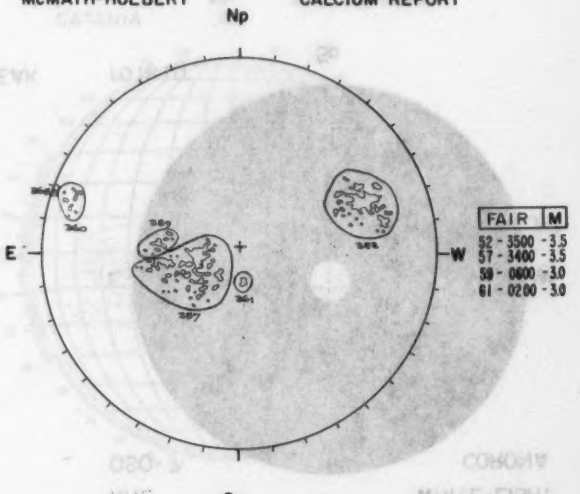
Brightness Unit 5,000° K

FLEURS, AUSTRALIA
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT
CALCIUM REPORT



1145 UT

BOULDER
Hα

BOULDER

SUNSPOTS

NRL

WHITE-LIGHT

20-21 UT

02-03 UT Brightness Unit 1,700° K

1145 UT

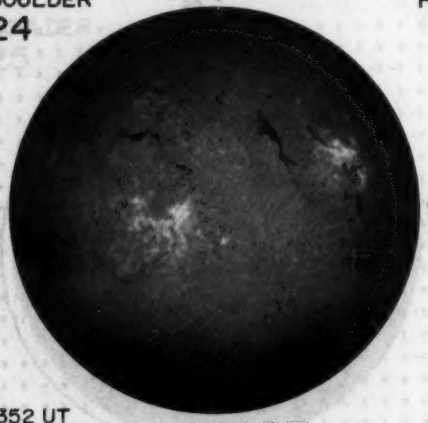
BOULDER
24

Np

Hα

E

W



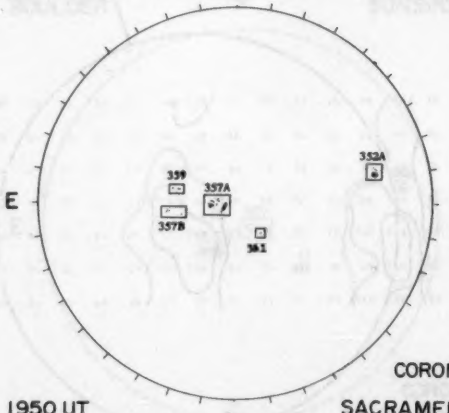
1352 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1950 UT

Sp

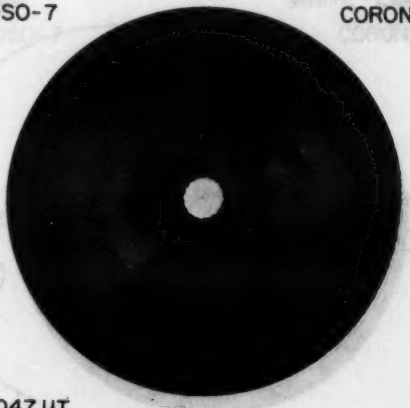
CORONA

SACRAMENO PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

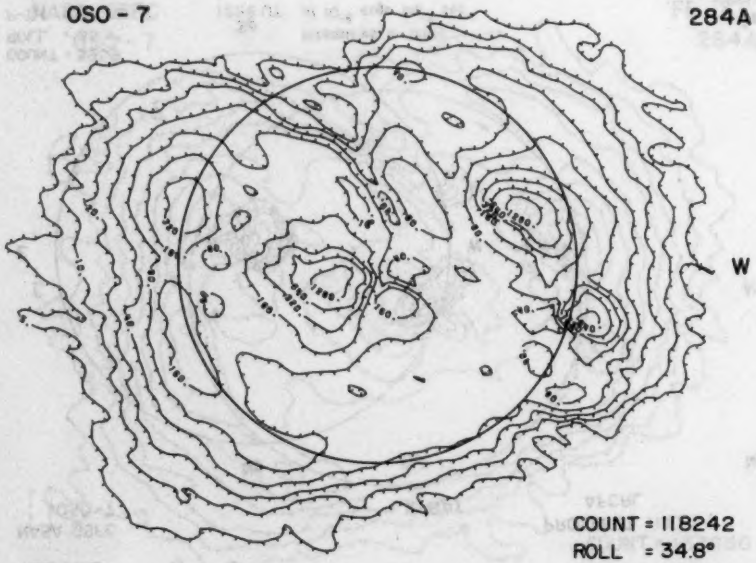
1047 UT

Sp

Np

NASA GSFC
OSO - 7

FE XV
284A



W

COUNT = 118242
ROLL = 34.8°
P-TH = -7.09

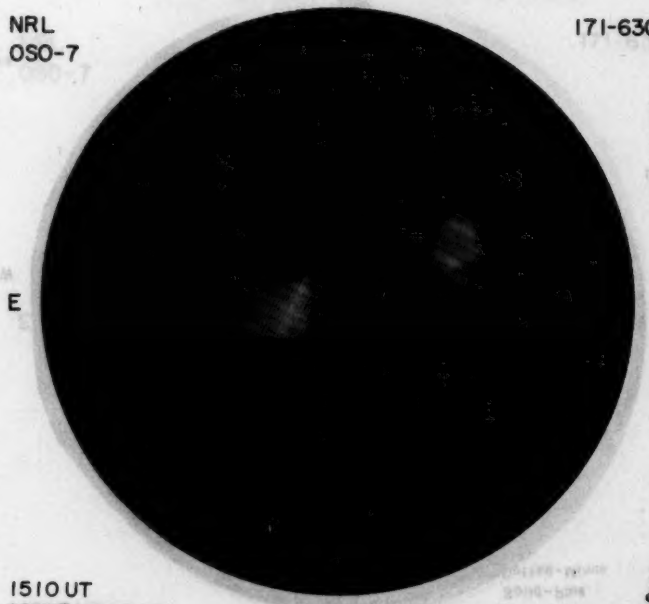
1334 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

1510 UT
COUNT = 68760

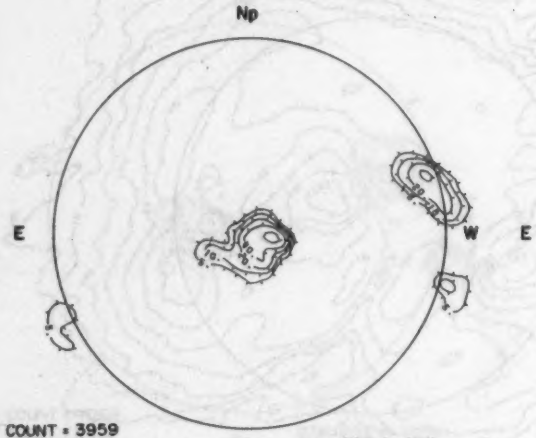
Sp

71
May 73

MAY 25, 1973 (P=-17.99, B_o=-1.47, L_o=102.24)

May 72
May 73

NASA GSFC OSO-7 — X-RAY



COUNT = 3959
ROLL = 35.1°
P-TH = -7.12

1228 UT

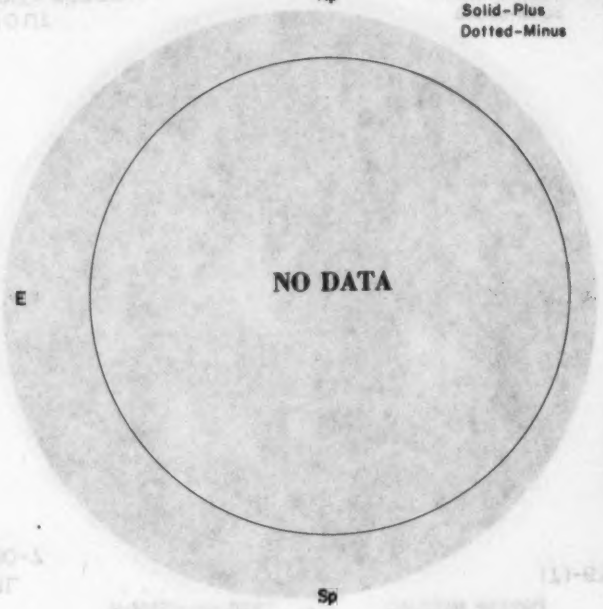
Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL AFCRL — 8.6 mm

Contours in Intervals of 200° K

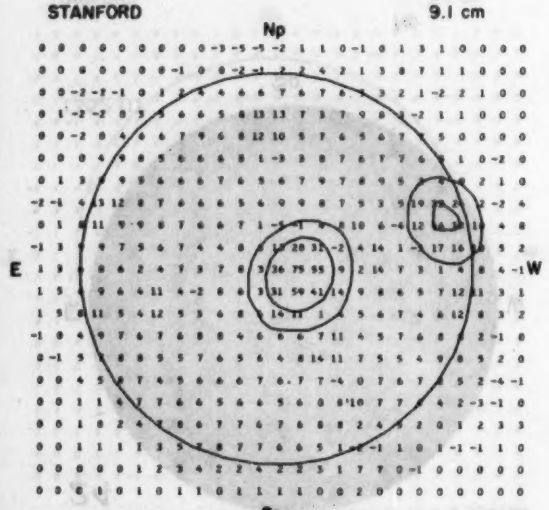
MT. WILSON — MAGNETOGRAM

Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

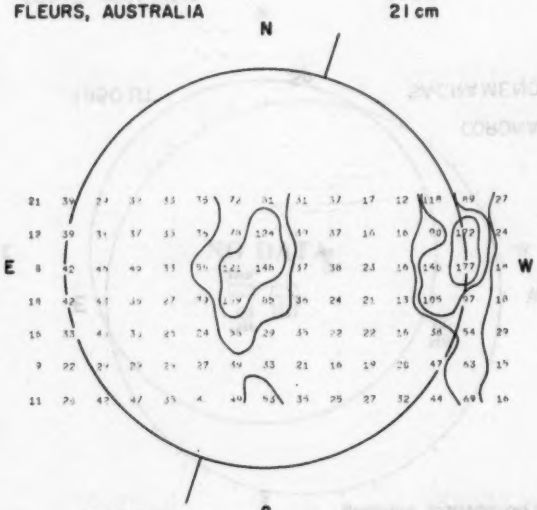
STANFORD — 9.1 cm



20-21 UT

Brightness Unit 5,000° K

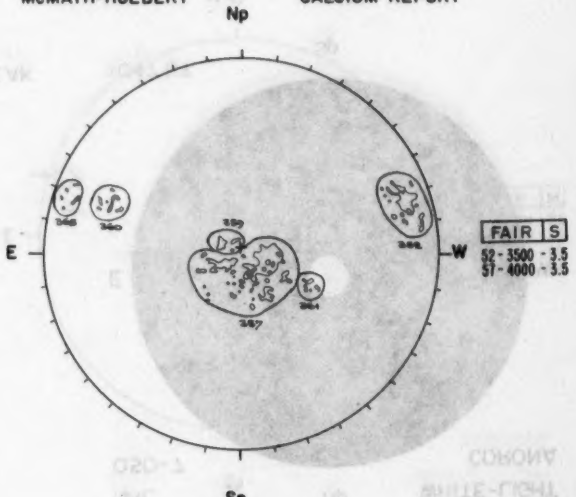
FLEURS, AUSTRALIA — 21 cm



02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT — CALCIUM REPORT



2030 UT

20-21 UT Brightness Unit 5,000° K

02-03 UT Resolution 3 Minutes of Arc Brightness Unit 1,700° K

2030 UT

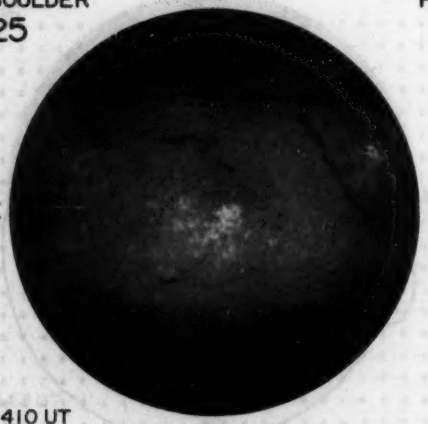
BOULDER
25

Np

Hα

E

W



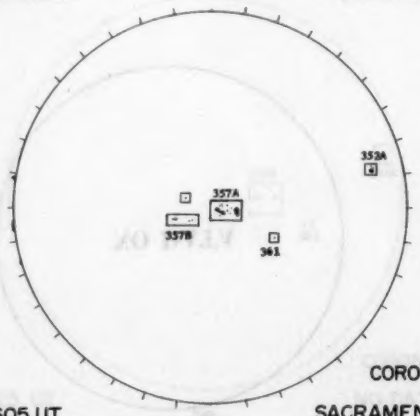
1410 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

CORONA

1605 UT

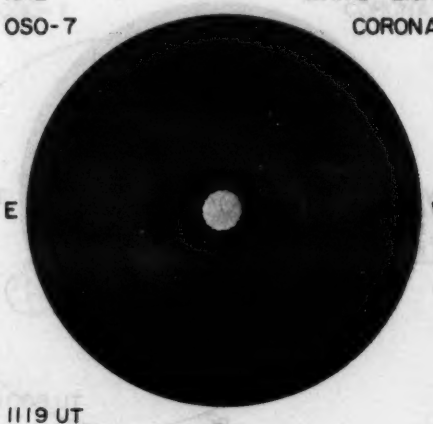
Sp

SACRAMENTO PEAK

NRL
OSO-7

Np

WHITE - LIGHT
CORONA



E

W

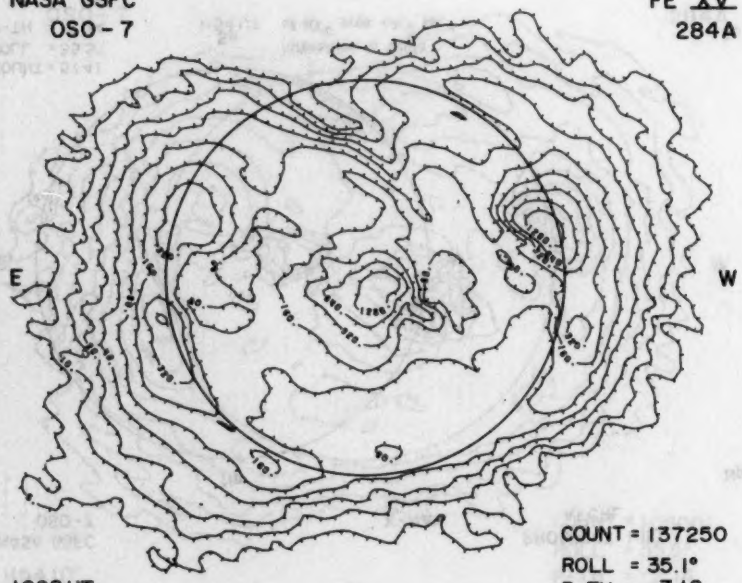
1119 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

W

COUNT = 137250
ROLL = 35.1°
P-TH = -7.12

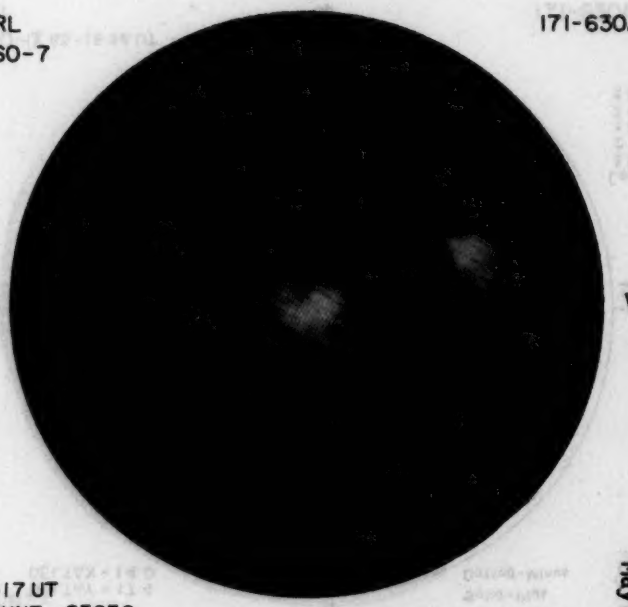
1228 UT

Sp

NRL
OSO-7

Np

171-630A



E

W

1317 UT
COUNT = 83232

Sp

73
May 73

MAY 26, 1973 (P=-17.66, B_o=-1.35, L_o=89.01)

74 May 73

NASA GSFC
OSO-7

X-RAY

COUNT = 5741
ROLL = 35.5°
P-TH = -7.14

1154 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

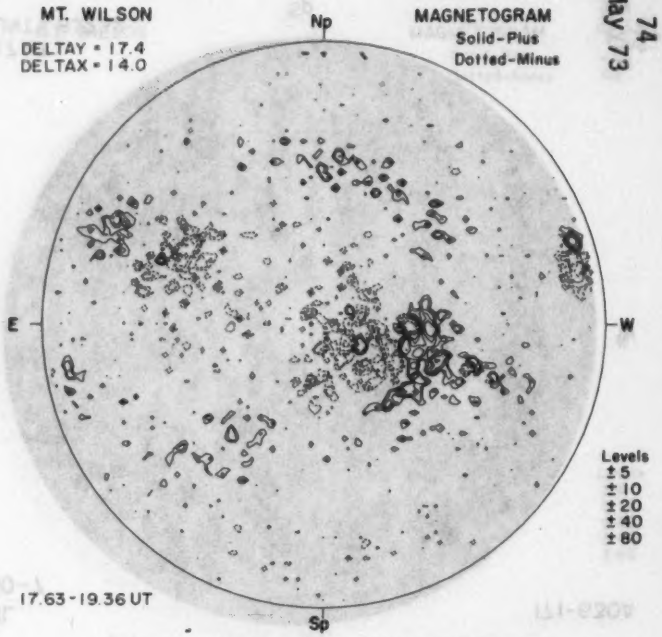
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

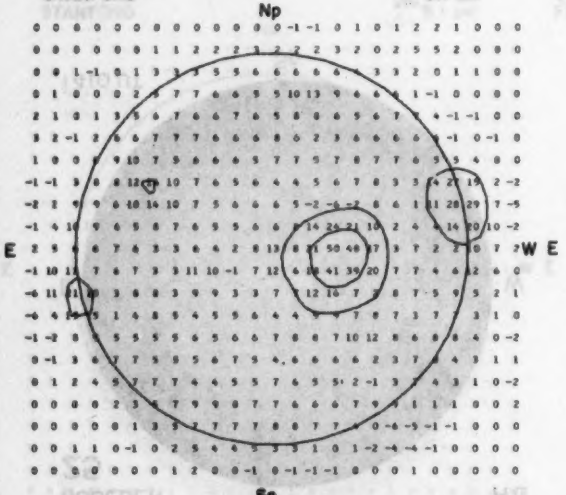
MAGNETOGRAM
Solid-Plus
Dotted-Minus



17.63-19.36 UT

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

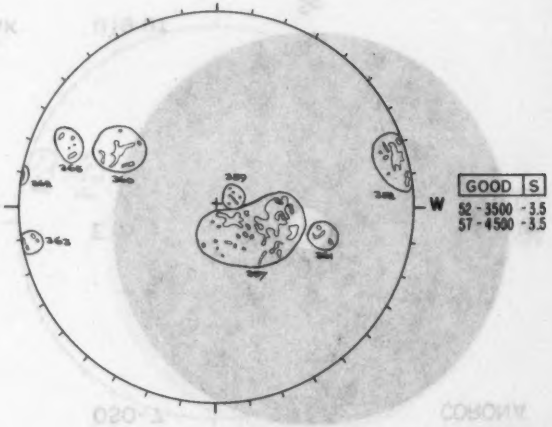
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1440 UT

20-21 UT

02-03 UT Brightness Unit 1,700° K

1440 UT

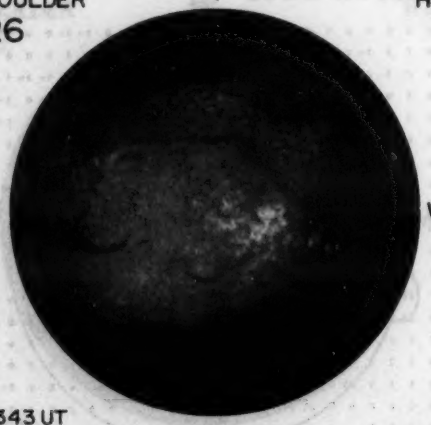
BOULDER
26

Np

Hα

E

W



1343 UT

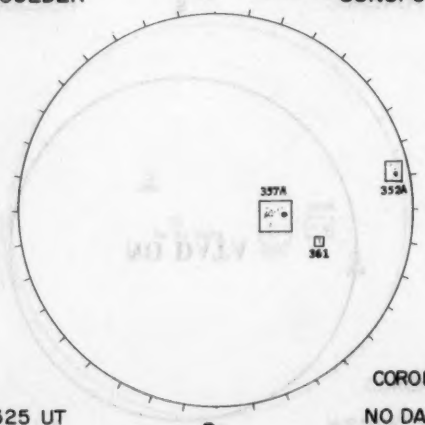
Sp

Np

BOULDER

Np

SUNSPOTS



E

W

CORONA

1325 UT

NO DATA

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

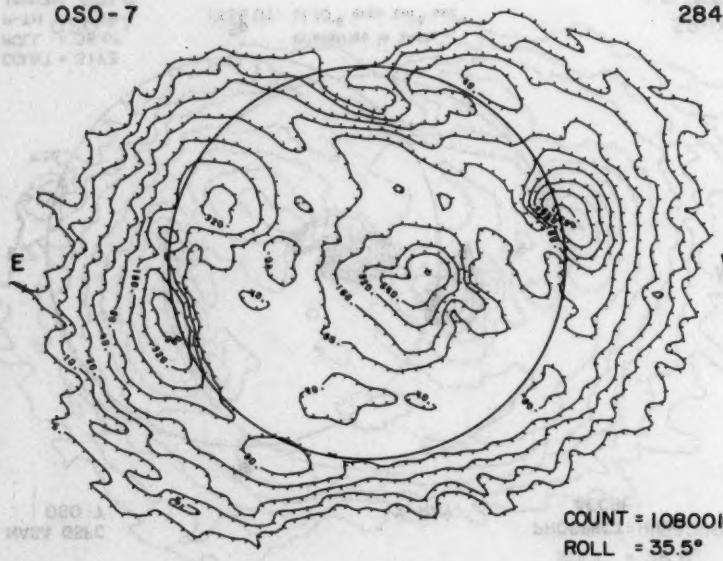
1009 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



E

W

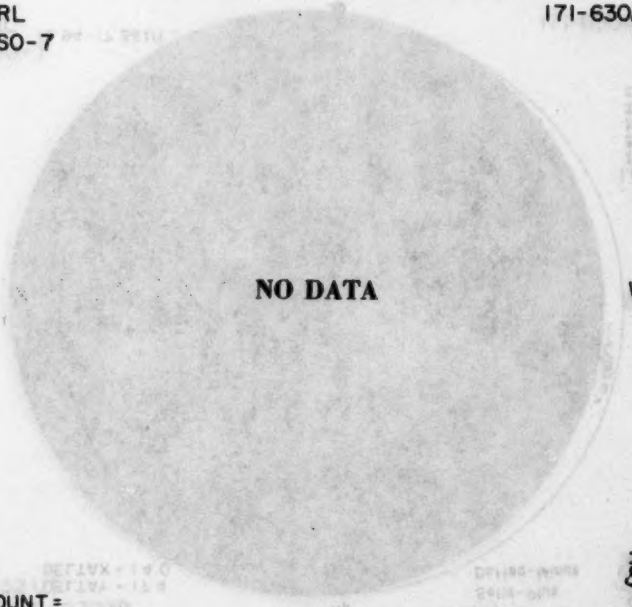
COUNT = 108001
ROLL = 35.5°
P-TH = -7.14

1154 UT

Sp

NRL
OSO-7

171-630A



E

W

COUNT =

Sp

75
May 73

MAY 27, 1973 (P=-17.31, B_o=-1.23, L_o=75.78)

76 May 73

NASA GSFC
OSO-7

X-RAY

COUNT = 3173
ROLL = 36.6°
P-TH = -7.16

1336 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

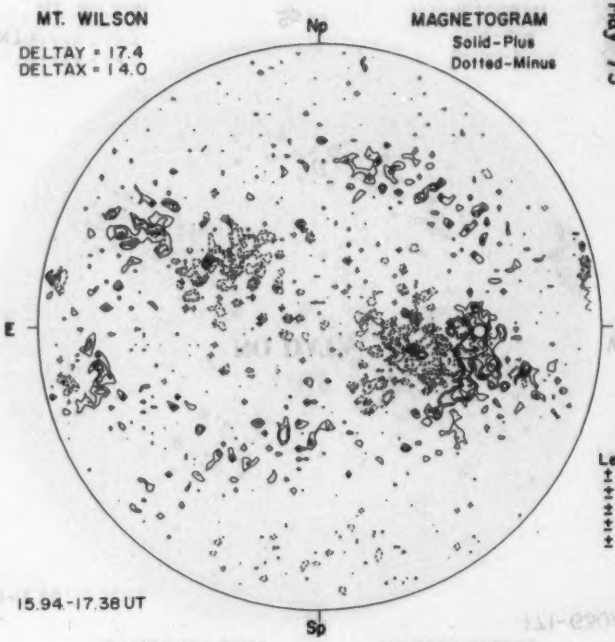
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

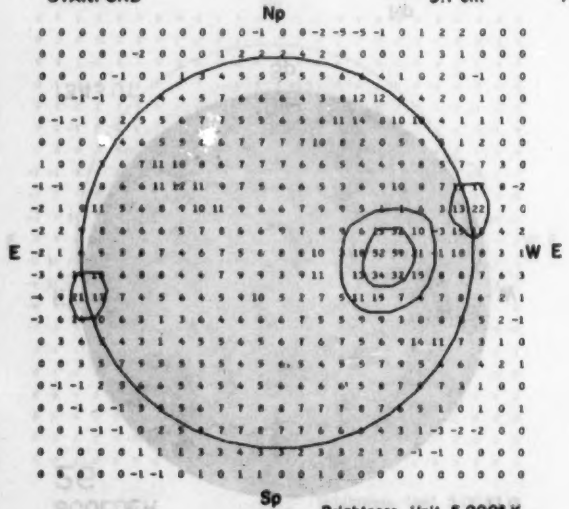


Levels
±5
±10
±20
±40
±80

15.94-17.38 UT

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

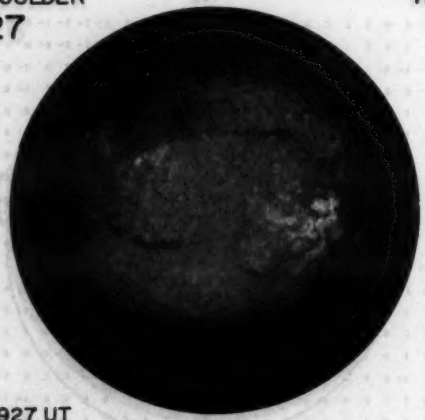
CATANIA

CALCIUM REPORT

0807 UT

20-21 UT 02-03 UT Brightness Unit 1,700° K 0807 UT

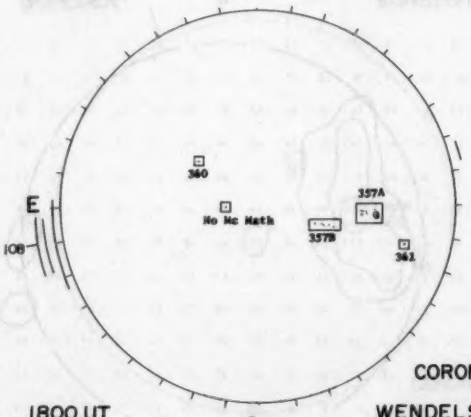
BOULDER
27



Hα

1927 UT

BOULDER



SUNSPOTS

CORONA
WENDELSTEIN

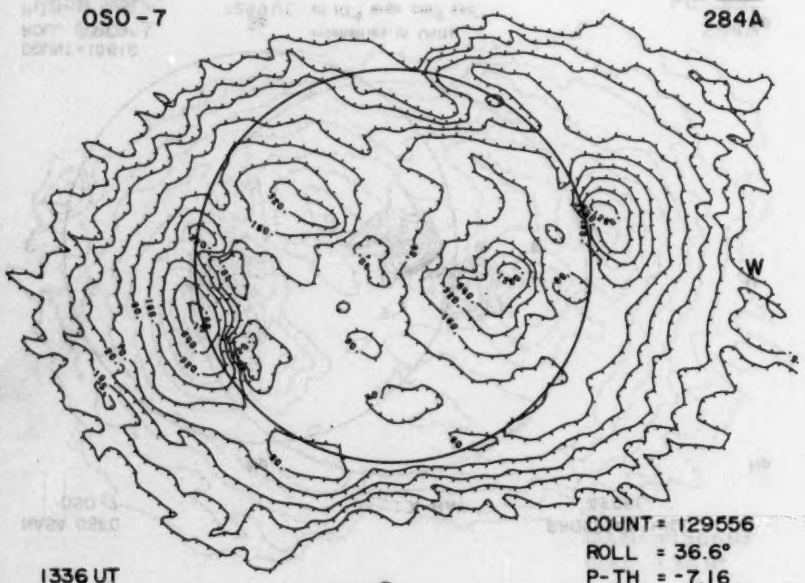
1800 UT

NRL
OSO-7

WHITE-LIGHT
CORONA

0909 UT

NASA GSFC
OSO-7

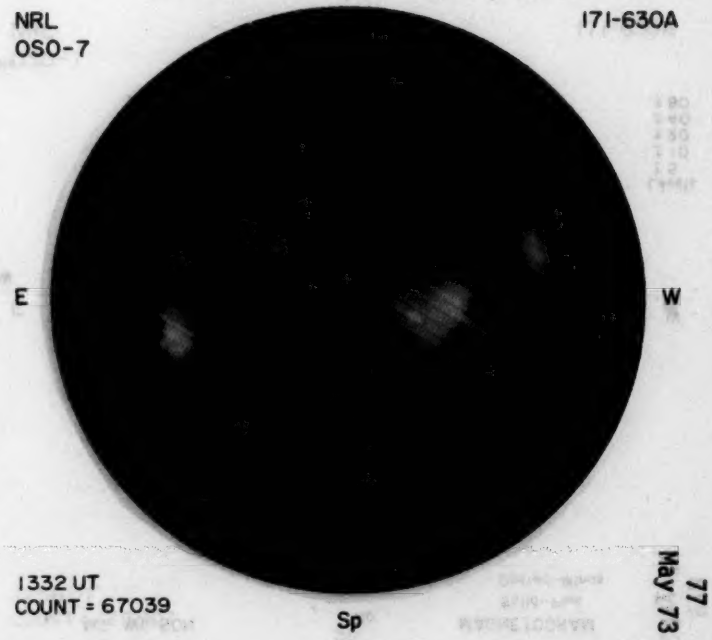


FE XV
284A

COUNT = 129556
ROLL = 36.6°
P-TH = -7.16

1336 UT

NRL
OSO-7



171-630A

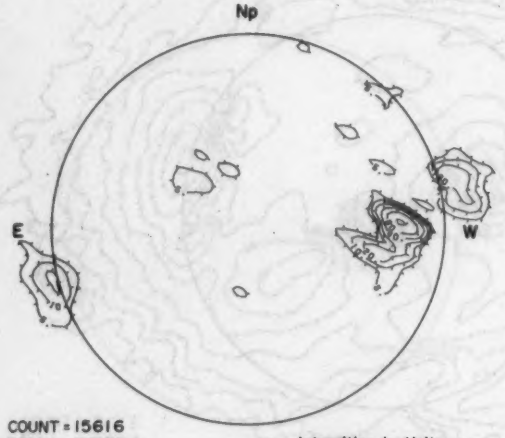
1332 UT
COUNT = 67039

77
May 73

MAY 28, 1973 (P=-16.96, B_o=-1.11, L_o=62.55)

NASA GSFC
OSO-7

X-RAY



COUNT = 15616
ROLL = 36.9°
P-TH = -7.18

1259 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

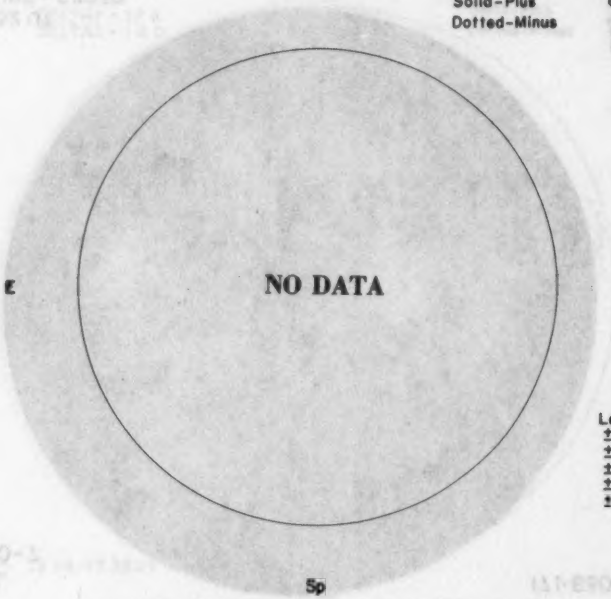
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON

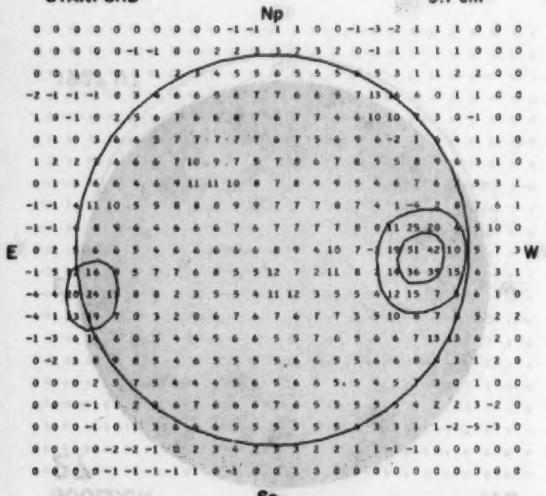
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

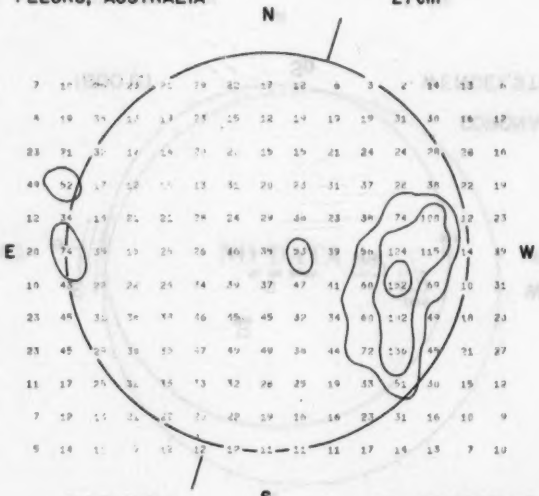


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

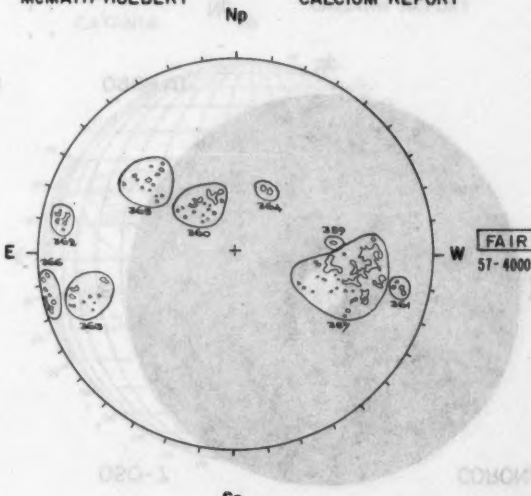


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1150 UT

BOULDER

Hα

BOULDER

SUNSPOTS

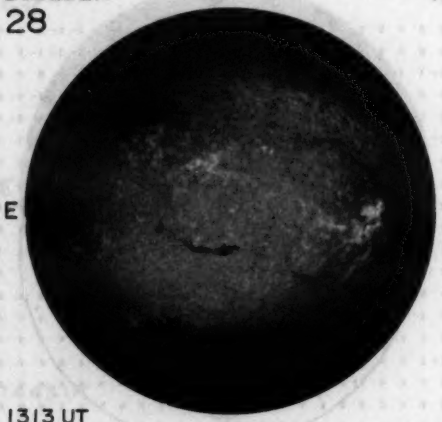
NRL

WHITE LIGHT

BOULDER
28

Np

Hα



E

W

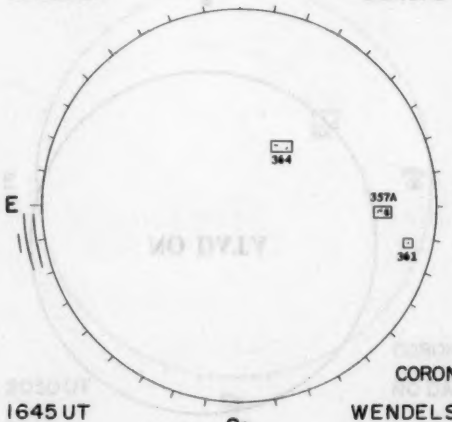
1313 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1645 UT

Sp

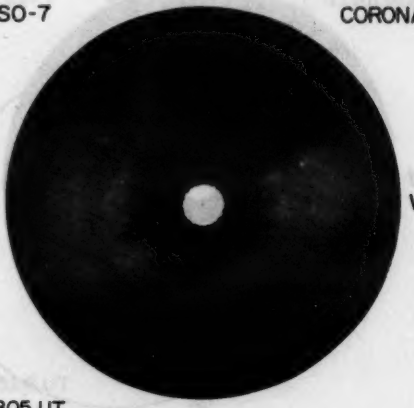
CORONA

WENDELSTEIN

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

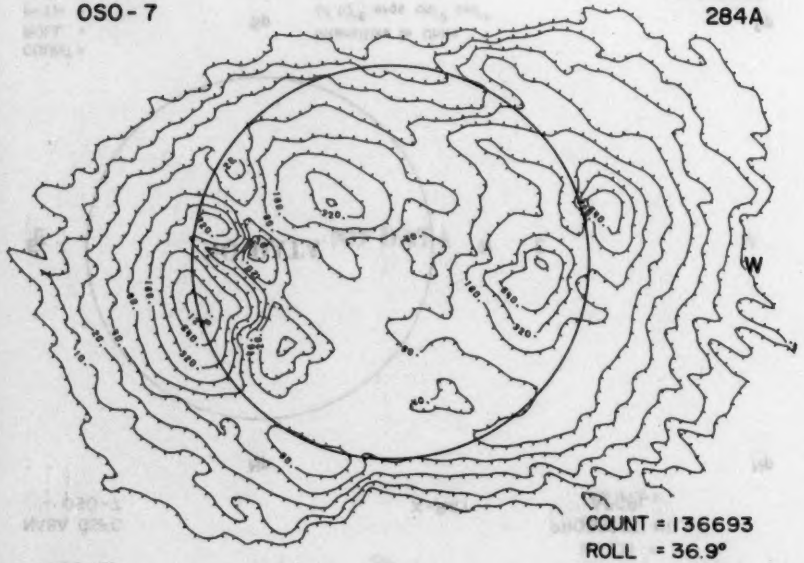
0805 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



W

COUNT = 136693
ROLL = 36.9°
P-TH = -7.18

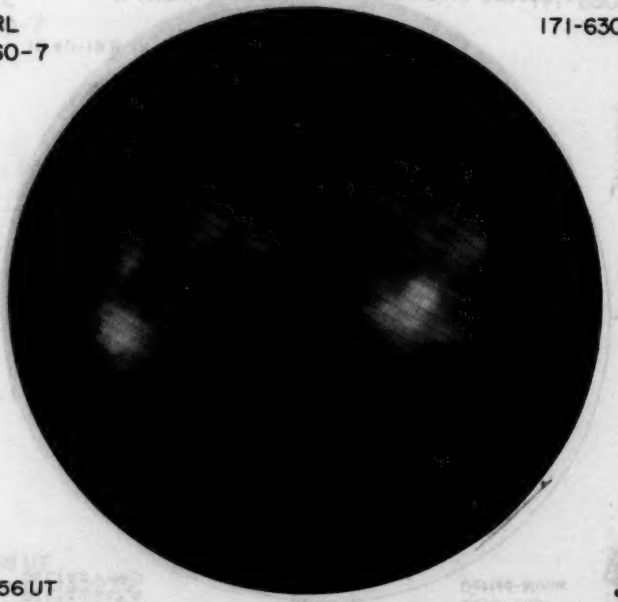
1259 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

1256 UT
COUNT = 126807

Sp

79
May 73

MAY 29, 1973 (P=-16.61, B_o=-0.99, L_o=49.31)

May 73 80

NASA GSFC
OSO-7

X-RAY

NO DATA

COUNT =
ROLL =
P-TH =

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAX = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Levels
±5
±10
±20
±40
±80

18.40-19.81 UT

STANFORD

9.1 cm

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

NO DATA

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

NO DATA

BOULDER

Hα

BOULDER

SUNSPOTS

NRL

WHITE-LIGHT

BOULDER
29

Np

Hα

E W

1443 UT

Sp

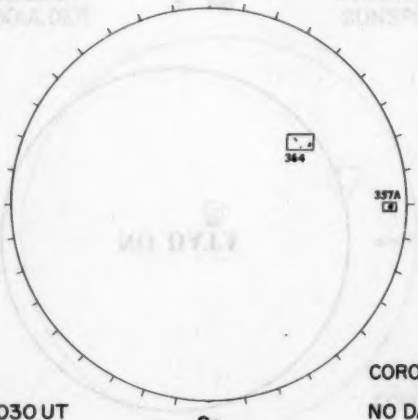
Np

NASA GSFC
OSO-7

BOULDER

Np

SUNSPOTS



E W

2030 UT

Sp

CORONA
NO DATA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E W

0526 UT

Sp

FE XV
284A

NO DATA

E W

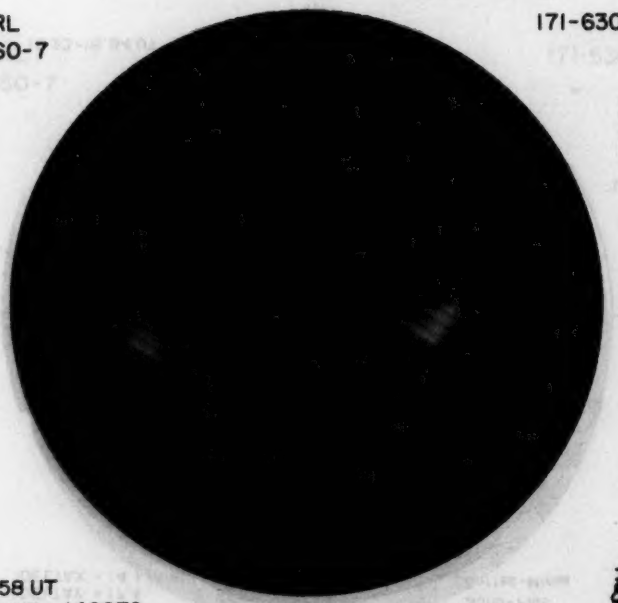
Sp

COUNT =
ROLL =
P-TH =

NRL
OSO-7

Np

171-630A



E W

1158 UT
COUNT = 142279

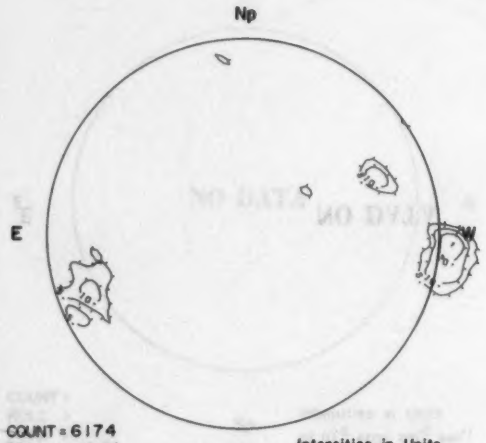
Sp

81
May 73

MAY 30, 1973 (P = -16.25, B_o = -0.87, L_o = 36.08)

NASA GSFC
OSO-7

X-RAY



COUNT = 6174
ROLL = 40.3°
P-TH = -7.21

1359 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

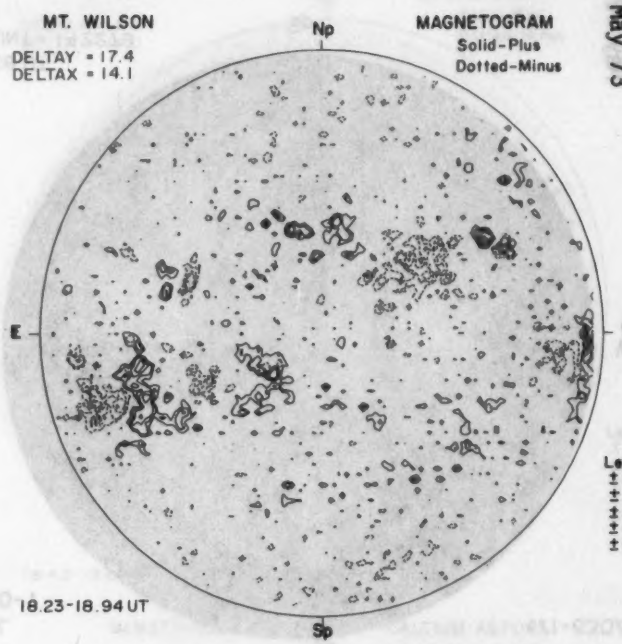
8.6 mm

Contours in intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

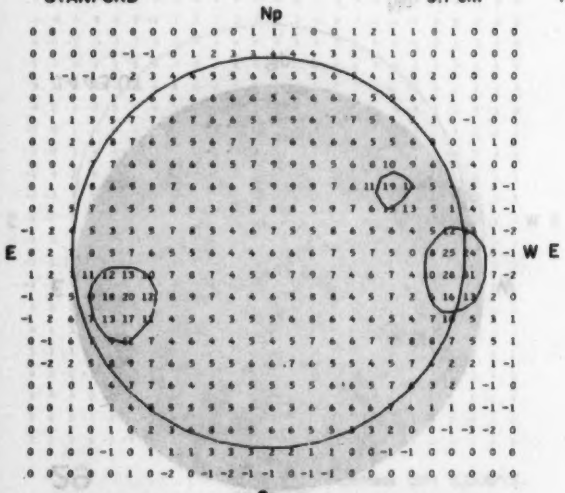


Levels
±5
±10
±20
±40
±80

18.23-18.94 UT

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

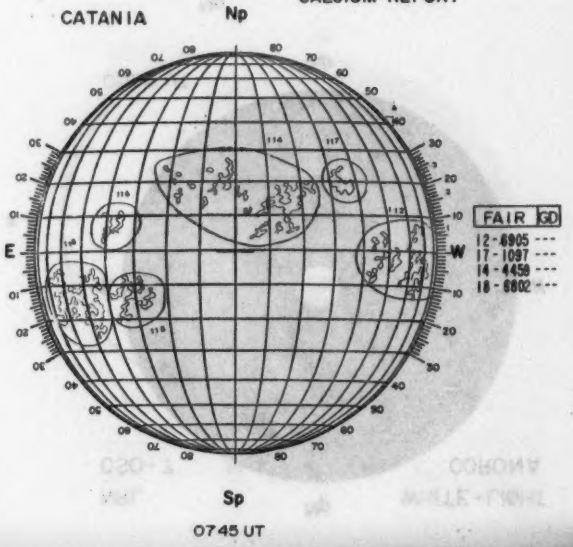
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

CALCIUM REPORT

CATANIA



07:45 UT

20-21 UT

02-03 UT Brightness Unit 1,700° K

0745 UT

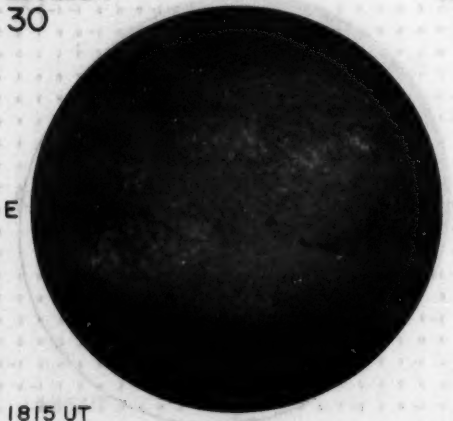
BOULDER
30

Np

Hα

E

W



1815 UT

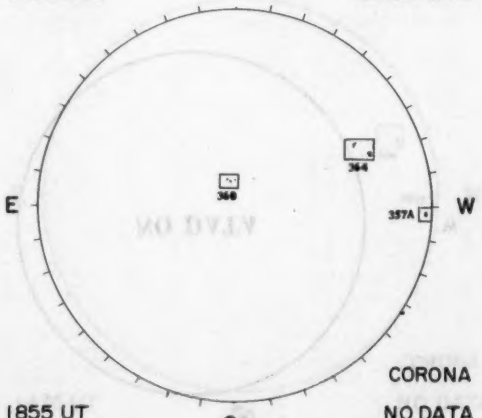
Sp

Np

BOULDER

Np

SUNSPOTS



E

W

1855 UT

Sp

CORONA

NO DATA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

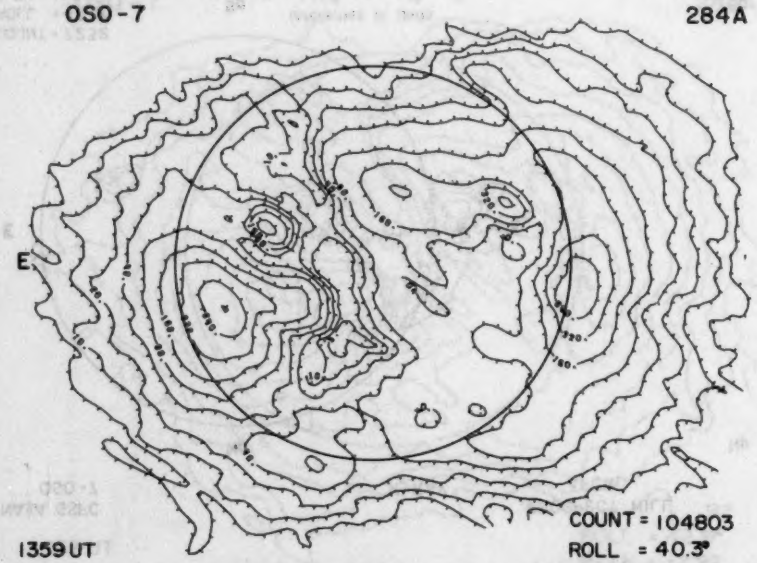
0556 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



E

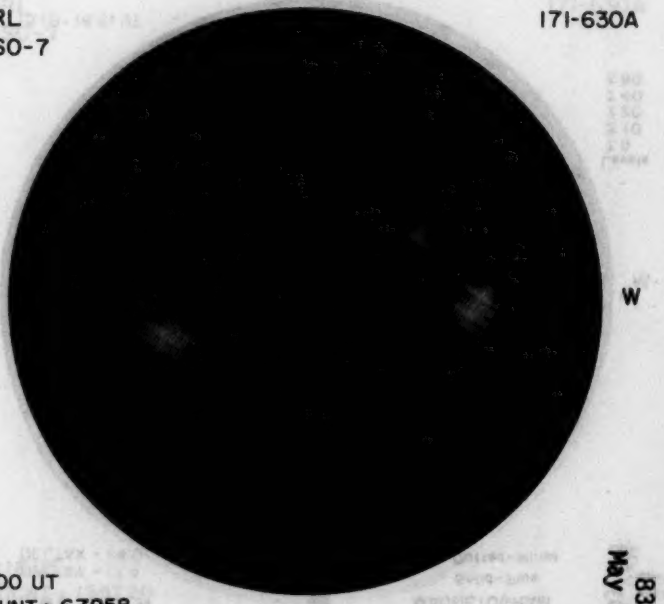
COUNT = 104803
ROLL = 40.3°
P-TH = -7.21

1359 UT

Sp

NRL
OSO-7

171-630A



E

W

1400 UT
COUNT = 67958

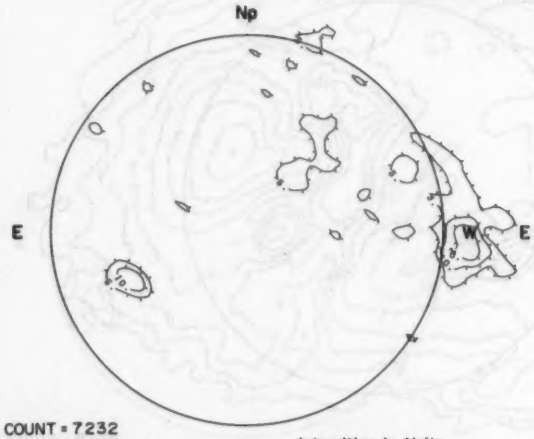
Sp

83
May 73

MAY 31, 1973 (P=-15.88, B_o=-0.75 L_o=22.85)

NASA GSFC
OSO-7

X-RAY



COUNT = 7232
ROLL = 42.9°
P-TH = -7.22

1257 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

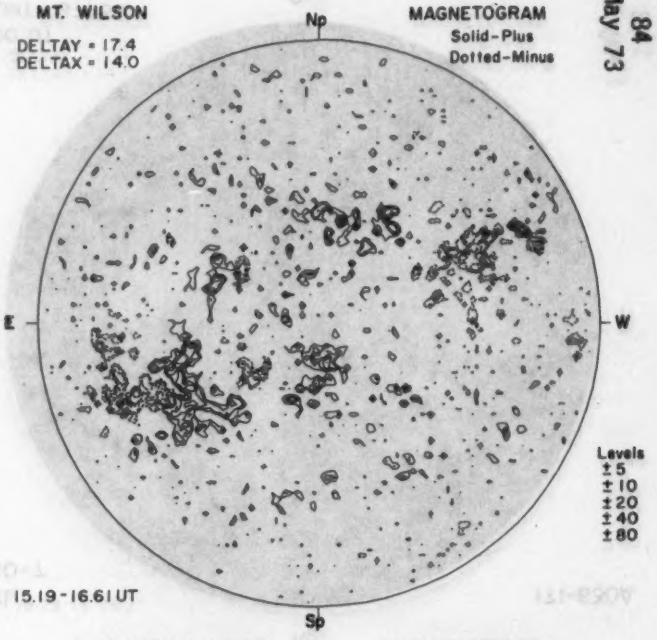
Contours in Intervals of 200° K

15.19-16.61 UT

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

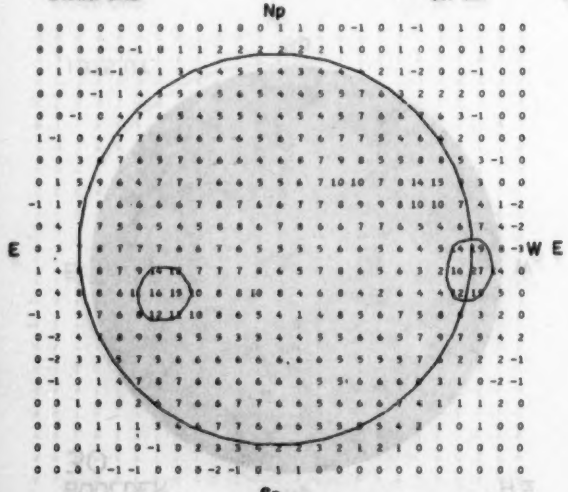
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

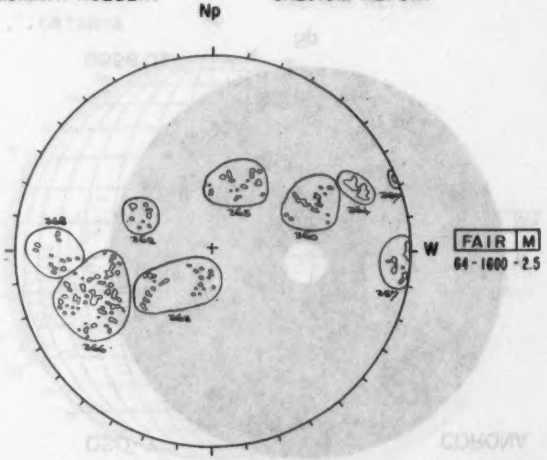
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

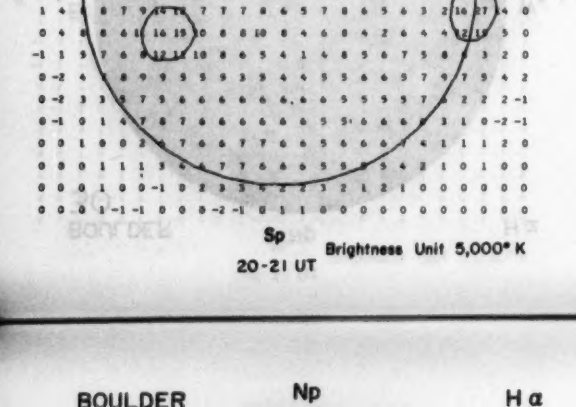
McMATH-HULBERT

CALCIUM REPORT



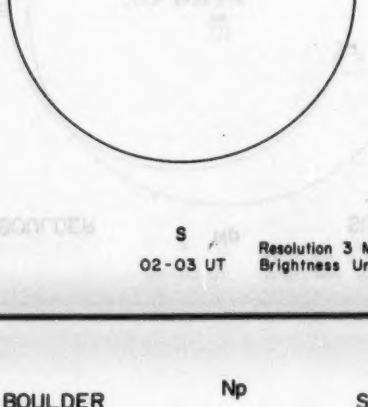
1130 UT

BOULDER

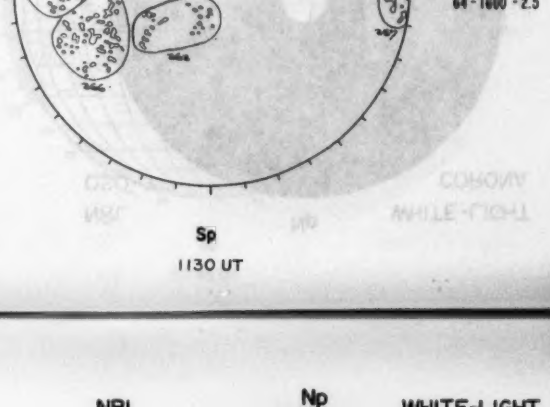


H α

BOULDER



SUNSPOTS



WHITE-LIGHT

BOULDER
31

Np

H α

E

W

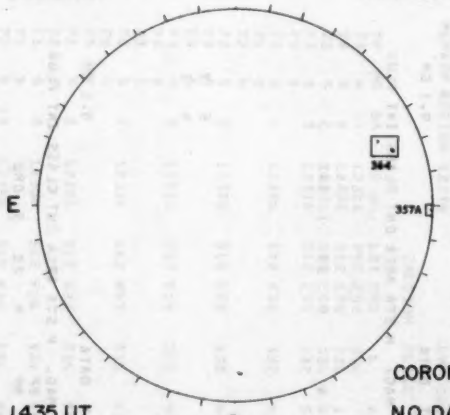
1426 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

CORONA

NO DATA

1435 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

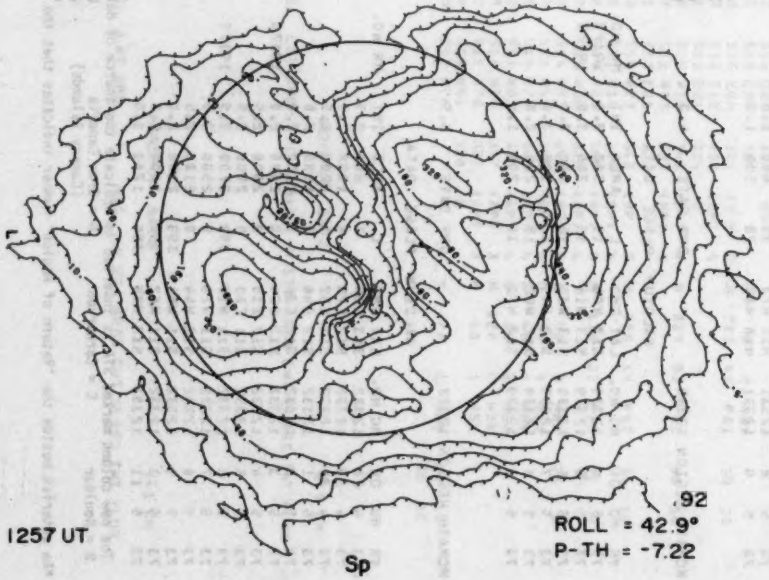
0452 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



.92

ROLL = 42.9°

P-TH = -7.22

1257 UT

Sp

Np

NRL
OSO-7

171-630A

E

W

1118 UT

COUNT = 135720

Sp

85
May 73

REGIONS OF SOLAR ACTIVITY

MAY 1973

MCMATH REGION 12330 CMP DATE 2.2

				CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT		MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	28	12330	S07 E46	45	180	1.5												

MCMATH REGION 12329 CMP DATE 2.3 RETURN OF REGION 12298* ROTATION 2

				CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT		MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	26	12329	N15 E78	41	900	2.0											5	2
73	4	27																8	2
73	4	28	12329	N13 E49	42	1100	2.0											5	1
73	4	29	12329	N13 E36	43	1100	2.5												
73	4	30	12329	N12 E19	44	1200	2.5		19167	N10 E20	40	(AP)	2						
73	5	1	12329	N12 E08	43	1200	2.5												
73	5	2	12329	N12 W05	43	1400	2.5											4	1
73	5	3	12329	N12 W18	42	1400	2.5											4	1
73	5	4	12329	N12 W33	42	1200	2.5											3	1
73	5	5	12329	N12 W42	41	1100	2.5											7	2
73	5	6	12329	N12 W55	41	1000	2.0												
73	5	7	12329	N12 W70	42	800	1.5											5	2

MCMATH REGION 12331 CMP DATE 3.4 RETURN OF REGION 12304812298* ROTATION 4

				CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT		MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	28	12331	N17 E64	27	500	2.0												
73	4	29	12331	N16 E52	27	700	2.0												
73	4	30	12331	N17 E35	28	900	2.0												
73	5	1	12331	N17 E22	29	800	2.0		19169	N18 E20	31	A		H	10	1	AXX		
73	5	2	12331	N18 E11	27	1000	2.0												
73	5	3	12331	N18 W02	26	1000	2.0												
73	5	4	12331	N18 W17	26	900	2.0												
73	5	5	12331	N18 W28	27	1000	1.5												
73	5	6	12331	N18 W42	28	800	1.5												
73	5	7	12331	N18 W54	26	600	1.0												
73	5	8	12331	N18 W73	29	600	1.0											5	2
73	5	9	12331	N18 W80	28	500	1.0											4	1

MCMATH REGION 12339 CMP DATE 4.3

				CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT		MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	4	12339	S13 W06	15	300	3.0		19173	S13 W09	17	BP							
73	5	5	12339	S13 W16	15	300	3.0		19173	S13 W20	17	BP		H	20	3	CRO		
73	5	6	12339	S13 W30	16	300	3.0												
73	5	7	12339	S12 W45	17	500	3.0												
73	5	8	12339	S12 W62	18	200	2.0												
73	5	9	12339	S12 W70	18	200	1.5												

MCMATH REGION 12332 CMP DATE 5.5 RETURN OF REGION 12300 ROTATION 3

				CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT		MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	28	12332	S13 E85	6	600	2.5											8	2
73	4	29	12332	S12 E75	4	1800	2.5											14	4
73	4	30	12332	S12 E62	1	2200	2.5												
73	5	1	12332	S12 E46	5	1800	2.0												
73	5	2	12332	S12 E36	2	2100	2.0												
73	5	3	12332	S12 E24	0	2500	2.0		19170	S05 E37	348	(AP)	2						
73	5	4	12332	S12 E10	0	2000	2.5												
73	5	5	12332	S11 E00	0	2500	2.5												
73	5	6	12332	S11 W13	359	2700	2.5		19175	S11 W10	355	(BP	1						
73	5	7	12332	S11 W28	0	2500	2.5												
73	5	8	12332	S12 W44	0	2100	2.5												
73	5	9	12332	S11 W61	359	2100	2.0												
73	5	10	12332	S11 W62	357	1800	2.0												
73	5	11	12332	S12 W75	356	1200	1.5												

The new column marked STA is inserted to indicate the source of data for sunspot area, count and classification.
B = Boulder C = Carnarvon G = Gran Canaria (Canary Islands) M = Manila

*An asterisk beside the "Return of Region" number indicates that the new region is only part of the area of the old region.

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MCMATH REGION 12346 CMP DATE 5.9

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	12	12346	N10 W88	355	600	2.0										19	6
73	5	13															3	1

MCMATH REGION 12335 CMP DATE 6.9

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	1	12335	N12 E73	339	400	1.0											
73	5	2	12335	N12 E61	338	400	1.5											
73	5	3	12335	N12 E48	337	400	1.5											
73	5	4	12335	N12 E34	336	400	2.5											
73	5	5	12335	N12 E24	336	600	2.0											
73	5	6	12335	N12 E05	341	400	1.0											
73	5	7	12335	N13 W03	335	400	2.0	19176	N14 E02	328	(BP)	3	B	20	5	CRO		
73	5	8	12335	N14 W16	332	300	2.5	19176	N14 W11	331	(BP)	2	H	40	3	CRO		
73	5	9	12335	N14 W24	332	300	2.0	19176	N16 W23	328	BP							
73	5	10	12335	N15 W35	330	300	2.0											
73	5	11	12335	N15 W50	331	400	1.0											
73	5	12	12335	N15 W67	334	500	3.0	19178	N12 W73	340	BP							

MCMATH REGION 12336 CMP DATE 7.4 RETURN OF REGION 12306 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	30	12336	S12 E90	334	600	2.0	19168	S12 E84	337	(	3						
73	5	1	12336	S12 E76	336	1800	3.5	19168	S14 E77	335	(D)	4	H	140	3	CAO	65	20
73	5	2	12336	S12 E65	334	5700	4.0	19168	S14 E61	336	(D)	5	B	340	27	EKC	126	38
73	5	3	12336	S12 E53	332	5400	4.0	19168	S14 E48	337	(D)	5	H	600	7	EKI	49	15
73	5							19171	S12 E65	320	(A)	1						
73	5	4	12336	S12 E38	332	5500	4.0	19168	S13 E31	338	BY		H	640	11	EKI	38	11
73	5							19172	S12 E37	332	BP							
73	5							19171	S13 E45	324								
73	5	5	12336	S12 E28	332	6000	4.0	19168	S13 E20	338	BY		H	710	48	FAI	68	20
73	5							19172	S12 E26	332	BP							
73	5							19171	S13 E34	324			H	0	2	AXX		
73	5	6	12336	S12 E14	332	5800	4.0	19168	S15 E04	341	(D)	5	H	780	42	FAI	59	18
73	5							19172	S13 E12	333	(BP)	4						
73	5							19171	S13 E21	324	B							
73	5	7	12336	S12 W03	335	6000	3.5	19168	S15 W10	340	(D)	4	B	330	93	FAI	46	14
73	5							19172	S12 W03	333	(BP)	3						
73	5							19171	S13 E08	322								
73	5	8	12336	S12 W20	336	5800	3.5	19168	S14 W23	343	(BP)	5	H	770	35	FAI	34	10
73	5							19172	S11 W14	334	(BP)	4						
73	5	9	12336	S12 W26	334	5800	3.0	19168	S15 W39	344	(AP)	4	B	130	32	EAI	31	9
73	5							19172	S11 W30	335	(BP)	4						
73	5	10	12336	S12 W39	334	5600	3.0	19168	S14 W53	347	(AP)	4	B	90	9	HAX	26	8
73	5							19172	S11 W42	336	(BP)	4	B	30	4	CSO		
73	5	11	12336	S12 W53	334	5600	3.0	19168	S14 W71	346	(AP)	4	B	40	4	HAX		
73	5							19172	S11 W63	338	(AP)	4	B	20	2	HSX		
73	5	12	12336	S10 W67	334	5500	3.0	19168	S14 W80	347	(AP)	3	H	120	2	HAX		
73	5							19172	S11 W70	337	(AP)	3	H	60	1	HSX		
73	5							19179	S15 W61	328	A							
73	5	13							S12 W78				H	70	1.	HRX	43	14
73	5	14	12336	S10 W90	332	1000	1.0										36	12

MCMATH REGION 12347 CMP DATE 8.3

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	11	12347	N03 W43	324	300	2.5											
73	5	12	12347	N04 W56	323	300	3.0											

MCMATH REGION 12342 CMP DATE 8.7

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	10	12342	N29 W24	319	200	1.5											

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MCMATH REGION 12343 CMP DATE 9.4

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	10	12343	S07 W14	309	200	1.0	19177	S06 W14	308	(B)	1	B	10	2	BXO		
73	5	11	12343	S07 W27	308	200	2.5											
73	5	12	12343	S07 W41	308	200	1.5											

MCMATH REGION 12338 CMP DATE 10.0

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	3	12338	S13 E85	300	200	2.5											
73	5	4	12338	S13 E75	295	700	3.0	19174	S12 E68	301	BF		H	90	4	CRO	5	2
73	5								S12 E62				H	20	1	AXX		
73	5	5	12338	S13 E64	296	700	3.5	19174	S12 E57	301	BF		H	40	4	CRO	6	2
73	5	6	12338	S13 E48	298	1000	3.0	19174	S13 E45	300	(BP)	2	H	10	3	BXO		
73	5	7	12338	S13 E33	299	700	3.0	19174	S13 E31	299	BP		B	10	1	AXX	4	1
73	5	8	12338	S13 E14	302	700	3.0		S13 E27				H	10	2	AXX		
73	5	9	12338	S13 E07	301	800	2.5											
73	5	10	12338	S13 W06	301	600	2.5											
73	5	11	12338	S13 W19	300	600	2.5											
73	5	12	12338	S12 W37	304	600	2.0											
73	5	13															14	4
73	5	14	12338	S13 W60	302	1000	1.5										8	3
73	5	15	12338	S14 W71	300	600	1.0										5	1

MCMATH REGION 12344 CMP DATE 10.1

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	11	12344	S22 W19	308	200	1.5											
73	5	12	12344	S22 W33	308	100	1.5											
73	5	14	12344	S22 W59	301	100	1.0											

MCMATH REGION 12345 CMP DATE 13.0

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	11	12345	N06 E17	264	200	1.0											
73	5	12	12345	N06 E05	262	300	2.5	19180	N05 E03	264	(B)	1	H	10	2	AXX		
73	5	13							N06 W01				H	10	1	AXX		

MCMATH REGION 12341 CMP DATE 14.7

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	9	12341	N15 E68	240	200	1.0											

MCMATH REGION 12358 CMP DATE 15.5

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	20	12358	N16 W66	229	300	1.5											
73	5	21	12358	N16 W79	228	800	3.0											

MCMATH REGION 12348 CMP DATE 15.9

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	11	12348	S16 E60	221	200	1.0										21	6
73	5	12	12348	S18 E44	223	200	2.5											

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HCMATH REGION 12349 CMP DATE 17.7

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	12	12349	S10 E75	192	300	1.0											
73	5	13															8	2
73	5	14	12349	S09 E46	196	300	2.0	19181	S10 E37	199	(BP	2	B	0	1	AXX		
73	5	15	12349	S09 E32	197	700	3.0	19181	S10 E28	199	(BP)	3	B	20	15	CRI	7	2
73	5	16	12349	S09 E17	197	600	3.0	19181	S10 E15	198	(BP)	4	B	60	21	CAO	6	2
73	5	17	12349	S09 E03	199	700	2.5	19181	S10 E02	198	(BP)	3	B	20	7	CRO	4	1
73	5	18	12349	S08 W10	199	600	3.0	19181	S10 W12	199	(BP)	2	B	30	5	AXX	4	1
73	5	19	12349	S09 W26	199	700	3.0	19181	S10 W29	199	B							
73	5	20	12349	S09 W36	199	700	3.0	19181	S12 W40	201	BF						5	2
73	5	21	12349	S10 W49	198	1000	3.0	19181	S14 W55	200	(BP	2	B	10	3	BXO	5	1
73	5	22	12349	S11 W61	197	800	3.0										4	1
73	5	23															6	2

HCMATH REGION 12351 CMP DATE 18.1

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	14	12351	N09 E48	194	200	1.5											
73	5	15	12351	N10 E35	194	200	1.5											

HCMATH REGION 12350 CMP DATE 18.4 RETURN OF REGION 12321 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	12	12350	S16 E80	187	400	1.0											
73	5	14	12350	S16 E52	190	600	1.5											
73	5	15	12350	S16 E40	189	900	1.5											
73	5	16	12350	S15 E25	189	600	1.5											
73	5	17	12350	S15 E12	190	600	1.0											
73	5	18	12350	S15 E00	189	600	1.0											
73	5	19	12350	S15 W16	189	500	1.0		S11 W18			H		10	1	AXX		
73	5	20	12350	S15 W26	189	600	1.0											

HCMATH REGION 12353 CMP DATE 19.4

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	18	12353	S30 E12	177	100	2.0											

HCMATH REGION 12354 CMP DATE 21.0

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	18	12354	S07 E35	154	200	1.0	19184	S07 E33	154	(AP)	1	B	10	1	AXX	7	2
73	5	19	12354	S06 E19	154	200	1.0											
73	5	20	12354	S04 E06	157	200	1.0											

HCMATH REGION 12352 CMP DATE 21.4 RETURN OF REGION 12322 ROTATION 4

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	14	12352	N09 E86	156	800	1.5	19182	N13 E80	156	(A)	2					23	7
73	5	15	12352	N11 E76	153	2000	2.5	19182	N12 E62	165	(AP)	3					31	9
73	5							19183	N10 E79	148	(Y)	4	B	140	6	DAO		
73	5	16	12352	N12 E64	150	2900	3.0	19182	N12 E59	154	(AP)	4	B	50	1	HSX	35	11
73	5							19183	N09 E65	148	(Y)	4	B	190	32	DAI		
73	5	17	12352	N12 E52	150	3500	3.0	19182	N12 E46	154	(AP)	4	B	30	1	HSX	45	13
73	5							19183	N09 E53	147	(Y)	5	B	220	13	DAI		
73	5	18	12352	N12 E39	150	4500	4.0	19182	N12 E32	155	(BP)	4	B	10	3	HRX		
73	5							19183	S10 E38	149	(D)	5	B	240	47	DKC	39	12

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73	5	19	12352	N12 E22	151	5500	4.0	19182	N12 E16	154	(BP	3	M	60	1	HSX		
73	5							19183	N10 E21	149	(D)	5	M	430	22	DKC	48	14
73	5								N08 E23				M	10	1	AXX		
73	5	20	12352	N12 E12	151	5000	3.5	19182	N12 E06	155	(BP)	3	B	20	1	HRX	49	15
73	5							19183	N10 E11	150	(D)	6	B	290	29	DKC		
73	5	21	12352	N12 W01	150	4500	3.5	19182	N12 W10	155	(AP)	3	B	20	1	HRX	52	15
73	5							19183	N10 W04	149	(Y)	5	B	270	48	DKI		
73	5								N05 E02				B	0	5	AXX		
73	5	22	12352	N12 W15	151	4500	3.5	19182	N12 W20	154	(AP)	3	B	10	4	AXX	46	13
73	5							19183	N10 W15	149	(Y)	5	B	200	27	CSI		
73	5	23						19182	N12 W34	154	(AP)	2	M	20	2	AXX	41	12
73	5							19183	N10 W30	150	(Y)	5	M	280	20	CSI		
73	5	24	12352	N12 W40	150	3500	3.5	19183	N11 W42	150	AP		B	80	5	CAI	30	9
73	5	25	12352	N13 W59	151	3500	3.5	19183	N11 W57	151	(AP)	4	B	70	6	CSO	19	6
73	5	26	12352	N13 W70	151	3500	3.5	19183	N11 W70	151	Y		B	40	1	HSX	12	4
73	5	27						19183	N11 W87	151	AP		B	30	1	HSX	8	2

MCMATH REGION 12356 CMP DATE 21.7

CALCIUM PLAGE DATA								SUNSPOT DATA										9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	19	12356	N41 E26	147	100	2.0											

MCMATH REGION 12361 CMP DATE 24.3

CALCIUM PLAGE DATA								SUNSPOT DATA										9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	23						19190	S10 E08	112	A							
73	5	24	12361	S09 W02	112	200	3.0	19190	S10 W05	113	BP		B	10	1	AXX		
73	5	25	12361	S09 W20	112	300	1.0	19190	S10 W20	114	(AP)	3	B	10	3	BXO		
73	5	26	12361	S09 W31	112	300	1.5	19190	S11 W34	115	(BP	3	B	10	1	AXX		
73	5	27						19190	S11 W50	114	AP		B	10	1	AXX		
73	5	28	12361	S09 W56	113	300	1.5	19190	S11 W61	116	AP		B	10	1	AXX		

MCMATH REGION 12367 CMP DATE 25.0

CALCIUM PLAGE DATA								SUNSPOT DATA										9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	31	12367	N22 W85	102	200	1.0											

MCMATH REGION 12357 CMP DATE 25.6 RETURN OF REGION 12323 ROTATION 3

CALCIUM PLAGE DATA								SUNSPOT DATA										9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	19	12357	S06 E80	93	2000	2.5										11	3
73	5	20	12357	S07 E67	96	2400	2.5	19186	S09 E60	101		1					13	4
73	5							19187	S06 E62	99		1						
73	5							19188	S06 E66	95	BF							
73	5	21	12357	S07 E53	96	3000	2.5										10	3
73	5	22	12357	S07 E41	95	2800	2.5	19186	S08 E30	104	(AP)	2					11	3
73	5							19187	S05 E39	95	(BP)	3	B	10	2	BXO		
73	5							19188	S05 E47	87								
73	5	23						19186	S09 E20	100	AP						14	4
73	5							19187	S04 E23	97	AP		B	10	3			
73	5							19188	S05 E33	87	(B)	3	M	10	2			
73	5	24	12357	S07 E16	94	3400	3.5	19186	S09 E07	101			B	40	18	DRI	25	7
73	5							19187	S03 E09	99	B							
73	5							19188	S06 E21	87	BF		B	10	6	BXO		
73	5	25	12357	S06 W04	96	4000	3.5	19187	S02 W06	100	(BP)	4	B	90	26	DAI	30	9
73	5							19188	S05 E07	87	B		B	10	1	AXX		
73	5								S05 E07				B	10	7	BXO		
73	5	26	12357	S06 W15	96	4500	3.5	19187	S02 W20	101	(BP)	4	B	150	26	DAI	23	7
73	5							19188	S05 W06	87	B							
73	5	27						19187	S02 W37	101	BP		B	140	24	GSI	26	7
73	5								S06 W20				B	0	5	BXO		
73	5	28	12357	S07 W38	95	4000	3.5	19187	S02 W48	103	(BP)	5	B	150	21	CKI	24	7
73	5	29						19187	S02 W62	103	(AP)	4					17	5
73	5	30						19187	S01 W75	105	(AP)	3	B	60	1	HSX	15	4
73	5	31	12357	S04 W78	87	1400	1.5		S02 W85				G	60	1	HSX		
73	6	1	12357	S05 W90	92	500	1.0										5	2

REGIONS OF SOLAR ACTIVITY

MAY 1973

MCMATH REGION 12359 CMP DATE 26.2

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	21	12359	N03 E65	84	300	3.0	19189	N02 E59	86	(BP)	2	B	10	5	BXO		
73	5	22	12359	N02 E51	85	500	3.0	19189	N02 E49	85	(BP)	5	B	10	3	BXO		
73	5	23						19189	N01 E33	87	(BP)	3	H	50	3	BXX	4	1
73	5	24	12359	N02 E24	86	600	3.0	19189	N00 E20	88	BP		B	10	3	BXO		
73	5	25	12359	N01 E04	88	500	2.0											
73	5	26	12359	N01 W05	86	300	1.5											
73	5	28	12359	N02 W29	86	200	1.0											

MCMATH REGION 12364 CMP DATE 27.8

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	28	12364	N18 W09	66	200	2.0	19192	N18 W12	67	(BP)	4	B	10	6	BXO		
73	5	29						19192	N18 W27	68	(B)	4	H	110	4	DRO	9	3
73	5	30						19192	N18 W38	68	(BP)	5	B	70	6	CXO	7	2
73	5							19193	N25 W36	66	BF							
73	5	31	12364	N18 W49	66	1600	2.5	19192	N18 W54	70	(BP)	4	G	70	5	CSO		
73	6	1	12364	N18 W66	68	1700	3.5		N16 W70				B	40	3	HSX	5	1
73	6	2	12364	N18 W79	69	1700	3.0	19192	N18 W85	69	BP		G	50	1	HSX	5	1

MCMATH REGION 12369 CMP DATE 28.6

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	6	1	12369	N01 W53	55	200	1.5											
73	6	2	12369	N02 W67	57	200	1.0											

MCMATH REGION 12360 CMP DATE 29.1 RETURN OF REGION 12329 ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	24	12360	N15 E62	48	500	1.5										4	1
73	5	25	12360	N14 E43	49	700	1.5											
73	5	26	12360	N14 E31	50	1000	2.0	19191	N12 E35	46	BP		B	10	5	AXO	5	1
73	5	27						19191	N12 E18	46	AP		B	10	1	AXX		
73	5	28	12360	N14 E08	49	1200	2.0	19191	N11 E08	47	AP							
73	5	29						19191	N11 W04	45								
73	5	31	12360	N14 W31	48	1200	2.0											
73	6	1	12360	N14 W46	48	1000	2.0											
73	6	2	12360	N14 W59	49	1100	1.5											
73	6	3	12360	N14 W74	47	400	1.5										3	1

MCMATH REGION 12371 CMP DATE 29.4

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	6	2	12371	S12 W54	44	100	2.0											

MCMATH REGION 12370 CMP DATE 30.3

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	6	1	12370	S13 W38	32	100	1.5											
73	6	2	12370	S13 W43	33	100	2.0											

REGIONS OF SOLAR ACTIVITY

MAY 1973

MCMATH REGION 12365 CMP DATE 30.9 RETURN OF REGION 12331 ROTATION 5

				CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	5	24	12365	N20	E85	25	400	1.0											3	1
73	5	25	12365	N20	E67	25	500	1.0												
73	5	26	12365	N20	E55	26	500	1.5												
73	5	28	12365	N20	E30	27	700	1.5												
73	5	30								N17	E81			8	18	3	BRO		4	1
73	5	31	12365	N20	W07	24	700	1.5												
73	6	1	12365	N20	W24	26	600	1.5												
73	6	2	12365	N20	W37	27	600	1.5												
73	6	3	12365	N20	W52	25	500	1.0												
73	6	4	12365	N20	W68	24	500	1.0												

Note: Regions 12330, 12341, 12342, 12353, 12356, 12371 are very small and ephemeral "plages", seen only for 1 day.
Region 12358 is a new plage that develops near west limb in the location of old region 12315 of the previous rotation.
Region 12361 has formed near the location of 12334.
No calcium spectroheliograms were secured at the McMath-Hulbert Observatory on May 13, 23, 27, 29 and 30, 1973.

DAILY CALCIUM PLAGE INDEX

MAY 1973

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
73	5	1	17.2	73	5	11	27.7	73	5	21	18.9
73	5	2	22.4	73	5	12	21.5	73	5	22	16.2
73	5	3	*	73	5	13	17.9	73	5	23	18.8
73	5	4	*	73	5	14	17.7	73	5	24	20.6
73	5	5	35.3	73	5	15	18.4	73	5	25	23.7
73	5	6	39.7	73	5	16	5.8	73	5	26	20.9
73	5	7	39.1	73	5	17	2.9	73	5	27	*
73	5	8	34.7	73	5	18	5.9	73	5	28	26.1
73	5	9	*	73	5	19	9.8	73	5	29	25.1
73	5	10	33.4	73	5	20	11.8	73	5	30	24.6

* NO OBSERVATIONS

SOLAR X-RAYS MEASURED BY SATELLITE
SOLRAD 10 – EXPLORER 44

MAY 1973

NAVAL RESEARCH LABORATORY 1 - 8A HOURLY AVERAGES (10^{-3} ergs/cm^2/sec)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	3,48	1,91	57,5	124,	21,8	0,01	0,01	3,62	3,52	14,6	2,15	8,65	6,79	4,81	25,4	9,64	12,1<	4,40<	9,16<	2,65<	3,37<	7,44<	3,70<	1,70<
2	3,15<	0,49	3,98	14,3	10,2	2,19	1,35	5,67	16,8	6,13	3,83	7,98	1,99	3,42	1,48	2,14	2,84	1,47	1,85	1,52	4,13	13,4	2,16	5,93
3	2,20	6,68	15,2	6,14	13,2	2,99	2,93	2,86	116,	25,8	3,72	2,48	1,94	1,37	1,27	1,28	1,43	1,49	1,35	2,31	1,51	2,19	1,89	1,38
4	1,14	1,89	1,92	1,40	3,52	1,26	2,26	1,36	0,89	0,90	0,76	1,22	0,74	0,78	2,74	9,04	4,35	2,12	1,41	1,51	3,14	0,80	1,37	1,99
5	0,95	0,87	2,34	0,58	1,38	4,52	5,95	4,02	0,85	9,46	3,88	1,23	0,55	0,40	0,45	0,47	0,51	95,4	20,5	9,27	1,73	0,81	0,67	0,71
6	0,65	0,30	0,53	0,88	0,77	0,32	0,36	0,43	0,42	1,54	0,48	0,71	3,10	0,30	0,32	0,25	0,33	0,45	0,58	0,42	0,67	0,28	0,32	0,48
7	0,62	0,49	0,62	0,40	0,84	0,74	3,10	1,38	0,87	0,48	0,46	0,32	0,18	0,29	0,21	0,17	0,15	0,27	0,19	0,14	1,34	2,29	1,83	5,19
8	0,52	0,36	0,20	0,23	0,23	0,34	0,23	0,18	0,17	0,17	0,15	0,23	0,19	0,13	0,14	0,18	0,15	0,19	0,13	0,15	0,19	0,20	0,17	0,18
9	0,11	0,12	0,11	0,12	0,51	0,11	0,71	0,82	0,15	0,13	0,12	0,11	0,10	0,15	0,13	0,15	0,15	0,10	0,11	0,10	0,12	0,16	0,13	0,10
10	0,13	0,10	0,09	0,14	0,13	0,14	0,17	0,11	0,10	0,14	0,11	0,09	0,11	0,11	0,11	0,21	0,65	0,59	0,13	0,09	0,13	0,10	0,09	0,09
11	0,08	0,09	0,09	0,11	0,12	0,11	0,23	0,16	0,11	0,13	0,10	0,10	0,10	0,10	0,12	0,10	0,10	0,14	0,15	0,12	0,12	0,14	0,08	0,10
12	0,11	0,12	0,13	0,14	0,12	0,09	0,11	0,12	0,14	0,14	0,15	0,11	0,16	0,15	0,11	0,11	0,11	0,12	0,14	0,13	0,13	0,14	0,14	0,25
13	0,25	0,14	0,12	0,12	0,11	0,13	0,15	0,19	0,16	0,16	0,14	0,16	0,15	0,15	0,16	0,14	0,18	0,19	0,19	0,22	0,29	0,61	1,14	3,71
14	3,78	2,27	1,66	1,51	0,76	1,03	0,86	0,61	0,76	0,49	0,32	0,46	0,30	0,25	1,00	0,28	0,25	0,28	0,34	0,28	0,17	0,20	0,24	0,16
15	0,19	0,22	0,17	0,15	0,14	0,14	0,17	0,14	0,32	0,13	0,14	0,14	0,14	0,15	0,13	0,14	0,15	0,14	0,13	0,15	0,12	0,11	0,10	0,11
16	0,11	0,11	0,11	0,12	0,12	0,17	0,13	0,12	0,10	0,09	0,09	0,09	0,09	0,09	0,09	0,09	0,11	0,10	0,12	0,09	0,11	0,10	0,10	0,09
17	0,09	0,10	0,09	0,12	0,12	0,09	0,10	1,07	0,10	0,12	0,16	0,13	0,11	0,77	0,49	0,11	0,13	0,14	0,16	1,26	0,13	0,18	0,24	0,25
18	0,19	0,14	0,16	0,80	2,12	0,26	0,35	0,15	0,22	0,17	0,18	0,17	0,14	0,22	0,18	0,27	0,17	0,14	0,14	0,14	0,14	0,14	0,61	0,37
19	1,19	2,48	2,77	1,93	1,31	1,29	0,91	0,73	0,46	0,53	0,86	0,44	0,30	0,22	0,20	0,29	0,43	0,17	0,18	0,17	0,15	0,16	33,3	0,64
20	0,20	0,15	0,14	0,14	6,05	4,68	6,26	0,25	0,21	0,48	0,22	0,15	0,46	0,77	0,20	0,16	0,31	0,26	0,19	0,28	1,16	1,36	0,20	0,18
21	0,15	0,16	0,14	0,13	0,22	0,17	0,15	0,18	0,29	0,26	0,15	0,17	0,61	0,13	0,15	0,20	0,31	0,26	0,39	0,20	0,24	0,24	0,45	0,18
22	0,17	0,15	0,24	0,19	0,15	0,18	0,16	0,17	0,20	0,39	0,19	0,18	0,19	0,20	0,20	0,16	0,19	1,89	0,86	0,17	0,15	0,14	0,14	0,46
23	0,12	0,12	0,12	0,12	0,13	0,15	0,14	0,14	0,12	0,12	0,12	0,12	0,12	0,14	0,14	0,17	0,21	0,15	0,27	0,23	0,20	0,23	0,22	0,17
24	0,51	0,21	0,22	0,31	0,44	0,21	0,29	3,34	0,22	0,18	0,17	0,18	0,54	0,55	0,19	0,20	0,40	0,20	2,98	0,38	0,66	0,16	0,17	0,26
25	0,70	0,82	2,86	0,41	0,74	0,49	0,65	1,50	0,25	0,38	0,29	0,26	0,26	0,20	0,27	0,47	0,37	0,55	0,26	0,26	0,38	0,33	0,20	0,16
26	0,16	0,16	0,17	0,33	0,17	0,19	0,13	0,18	0,15	0,12	0,12	0,13	0,24	0,26	0,18	0,23	0,28	0,23	0,18	0,18	0,16	0,15	0,16	0,15
27	0,12	0,13	0,12	0,15	0,12	0,11	0,11	0,14	0,10	0,15	0,13	0,12	0,28	0,51	0,53	0,66	0,43<	0,52<	0,22<	0,16<	0,21<	0,16<	0,25<	0,79<
28	0,19<	0,16<	0,11	0,09	0,12	0,11	0,09	0,09	0,11	0,10	0,11	0,11	0,34	0,20	0,11	0,10	0,19	0,31	0,10	0,13	0,09	0,09	0,09	0,11
29	0,09	0,09	0,09	0,09	0,11	0,09	0,12	0,09	0,07	0,06	0,07	0,08	0,07	0,08	0,07	0,11	0,12	0,12	0,11	0,09	0,13	0,15	0,09	0,09
30	0,07	0,08	0,08	0,07	0,06	0,07	0,08	0,07	0,07	0,06	0,08	0,08	0,09	0,06	0,06	0,06	0,06	0,06	0,06	0,06	0,06	0,06	0,06	0,06
31	0,06	0,06	0,06	0,06	0,06	0,06	0,06	0,06	0,06	0,06	0,05	0,05	0,06	0,06	0,06	0,05	0,05	0,06	0,05	0,06	0,07	0,06	0,06	0,06

VALUES MARKED WITH (<) WERE CALCULATED FROM DATA PROVIDED BY SOLRAD 9

SOLAR X-RAYS MEASURED BY SATELLITE
SOLRAD 10 – EXPLORER 44

MAY 1973

NAVAL RESEARCH LABORATORY 8 - 20A HOURLY AVERAGES (10^{-2} ergs/cm^2/sec)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	7,08	4,41	14,3	36,7	18,3	9,25	8,62	5,94	6,13	10,2	5,92	7,62	8,11	6,07	14,9	11,4	10,3	7,48	9,41	7,06	13,9	9,91	6,88	4,81
2	5,38	5,52	5,33	9,59	10,8	5,48	4,24	5,76	14,4	9,00	7,22	8,20	5,37	6,00	4,55	5,50	5,97	3,76	3,48	3,53	3,48	11,0	5,03	6,71
3	5,05	5,54	10,7	6,62	9,96	5,92	5,65	5,89	25,5	19,1	6,65	5,92	4,86	3,80	2,96	2,93	3,19	3,55	3,24	4,59	3,58	4,86	4,31	3,87
4	3,16	4,21	3,82	3,10	5,55	3,72	4,56	2,90	2,96	2,69	2,65	3,32	2,66	2,79	4,54	9,05	7,43	5,82	4,58	3,97	4,47	2,80	2,99	3,38
5	2,39	2,31	3,69	2,21	3,20	6,23	8,18	7,28	4,24	9,41	7,61	4,19	2,38	1,64	1,95	2,19	2,16	37,7	29,0	11,1	5,69	3,22	2,96	2,88
6	2,87	1,49	1,98	2,66	2,42	1,40	1,46	1,73	1,61	3,42	1,69	2,25	3,48	1,27	1,30	1,15	1,30	1,79	1,91	1,72	2,38	1,26	1,26	1,62
7	2,17	1,74	2,10	1,49	2,35	2,29	3,40	3,49	2,37	2,07	1,37	1,22	0,98	1,11	1,03	0,93	0,85	1,12	0,92	0,85	3,22	4,44	4,24	7,90
8	2,14	1,29	1,00	1,04	1,02	1,05	0,99	0,96	0,89	0,85	0,87	0,93	0,88	0,74	0,74	0,87	0,77	0,94	0,76	0,77	0,85	0,89	0,81	0,80
9	0,64	0,67	0,62	0,66	1,14	0,61	1,95	2,24	0,84	0,68	0,65	0,59	0,59	0,68	0,68	0,73	0,77	0,58	0,62	0,58	0,59	0,66	0,61	0,56
10	0,59	0,53	0,52	0,61	0,60	0,64	0,69	0,60	0,63	0,62	0,59	0,54	0,53	0,57	0,57	0,69	1,65	1,91	0,66	0,48	0,55	0,49	0,46	0,46
11	0,46	0,45	0,46	0,49	0,54	0,53	0,73	0,61	0,56	0,55	0,51	0,51	0,50	0,53	0,64	0,48	0,56	0,54	0,59	0,54	0,47	0,50	0,47	0,50
12	0,51	0,55	0,59	0,62	0,58	0,52	0,51	0,52	0,58	0,63	0,58	0,59	0,70	0,70	0,65	0,55	0,62	0,57	0,58	0,59	0,59	0,60	0,67	0,79
13	0,83	0,68	0,63	0,60	0,60	0,61	0,65	0,68	0,66	0,74	0,64	0,69	0,73	0,71	0,77	0,82	0,73	0,78	0,84	0,85	0,93	1,27	2,08	5,25
14	5,92	5,31	3,98	3,03	3,06	3,09	2,94	1,82	1,89	1,56	1,25	1,31	1,10	1,02	1,63	1,15	0,95	0,98	1,01	0,99	0,73	0,74	0,80	0,72
15	0,79	0,85	0,78	0,72	0,68	0,89	0,69	0,66	0,73	0,59	0,59	0,60	0,62	0,71	0,60	0,65	0,60	0,60	0,59	0,58	0,58	0,58	0,56	0,57
16	0,56	0,56	0,56	0,66	0,60	0,78	0,61	0,60	0,49	0,50	0,47	0,47	0,46	0,53	0,46	0,51	0,56	0,53	0,56	0,51	0,54	0,54	0,51	0,50
17	0,47	0,52	0,51	0,59	0,59	0,59	0,69	1,51	0,56	0,58	0,62	0,61	0,58	1,02	0,78	0,59	0,61	0,60	0,68	1,76	0,65	0,75	0,89	0,91
18	0,76	0,72	0,76	1,26	2,03	0,92	1,12	0,71	0,84	0,72	0,80	0,79	0,75	0,90	0,84	0,87	0,77	0,72	0,71	0,72	0,70	0,73	1,33	1,13
19	2,87	4,39	4,44	4,44	3,28	2,96	1,97	1,79	1,37	1,33	1,79	1,15	1,22	0,98	0,93	0,90	1,12	0,83	0,82	0,84	0,76	0,79	10,0	1,06
20	0,89	0,75	0,77	0,73	3,90	5,92	5,21	1,05	0,91	1,03	0,88	0,76	0,96	1,50	0,88	0,82	1,04	1,04	0,90	0,94	1,79	2,22	0,89	0,79
21	0,91	0,80	0,75	0,78	0,89	1,02	0,79	0,81	1,02	1,01	0,77	0,76	1,27	0,76	0,74	0,87	1,02	0,94	0,95	0,89	0,88	0,89	1,05	0,85
22	0,83	0,78	0,88	0,86	0,77	0,93	0,82	0,88	0,94	1,12	0,93	0,90	0,90	0,91	0,90	0,84	0,88	2,87	2,03	0,89	0,78	0,73	0,74	1,10
23	0,72	0,73	0,72	0,71	0,72	0,77	0,87	0,76	0,69	0,67	0,72	0,77	0,72	0,75	0,74	0,82	0,85	0,74	0,94	0,93	0,87	0,88	0,94	0,84
24	1,40	0,95	0,94	1,09	1,14	0,95	0,95	4,67	0,92	0,90	0,85	0,90	1,33	1,36	0,97	0,94	1,19	0,94	3,27	1,32	1,29	0,87	0,86	0,92
25	1,32	1,59	4,85	1,29	1,37	1,35	1,37	2,28	1,05	1,33	1,16	1,07	1,00	0,95	1,02	1,23	1,21	1,21	1,11	1,06	1,26	1,23	0,96	0,86
26	0,86	0,87	0,84	1,06	0,87	0,90	0,78	0,95	0,83	0,76	0,77	0,74	0,97	1,03	0,89	0,98	1,09	1,00	0,89	0,86	0,85	0,84	0,85	0,80
27	0,72	0,72	0,72	0,78	0,72	0,73	0,72	0,79	0,70	0,77	0,79	0,73	0,93	1,23	1,29	1,41								
28			0,70	0,66	0,68	0,67	0,65	0,62	0,75	0,65	0,66	0,61	0,86	0,79	0,66	0,60	0,75	0,70	0,61	0,65	0,59	0,59	0,59	0,60
29	0,59	0,59	0,58	0,57	0,60	0,56	0,60	0,59	0,53	0,47	0,50	0,48	0,47	0,52	0,48	0,59	0,59	0,62	0,60	0,56	0,63	0,63	0,54	0,56
30	0,46	0,48	0,52	0,46	0,46	0,48	0,47	0,46	0,49	0,49	0,48	0,46	0,49	0,46	0,46	0,46	0,46	0,46	0,46	0,46	0,46	0,43	0,41	0,42
31	0,42	0,45	0,46	0,46	0,46	0,46	0,44	0,43	0,42	0,42	0,40	0,39	0,42	0,45	0,40	0,38	0,39	0,43	0,42	0,40	0,44	0,45	0,41	0,42

SOLAR X-RAYS BY SATELLITE
SOLRAD 10 - EXPLORER 44

MAY 1973

NAVAL RESEARCH LABORATORY

OUTSTANDING EVENTS

DAY	START TIME	0.5-3A FLUX XE-5	PEAK TIME	1-8A FLUX XE-4	PEAK TIME	8-20A FLUX XE-3	PEAK TIME	END TIME	COMMENTS
1	0000E	4,16	0000	90,20	0000	116,00	0000	0011D	
1	0231	2160,00	0252	2090,00	0250	429,00	0252	0727	
1	0919E	72,00D	0927E	288,00	0920	148,00	0924	1012D	
1	1109	19,20	1112	77,30	1113	88,80	1115	1118D	
1	1143E	134,00	1157	360,00	1158	163,00	1200	1228	
1	1337E	216,00	1422	432,00	1420	237,00	1424	1738	MULTIPLE PEAKS
1	1822	48,00	1831	0,00	1822	148,00	1834	1914D	
1	2027	648,00	2035	0,00	2027	355,00	2037	2224D	
2	0109E	38,40	0109	0,00	0109E	74,00	0115	0130	
2	0222	38,40	0302	144,00	0301	118,00D	0350E	0440	
2	0508E	3,94	0510	38,60	0510	59,20	0509	0512	
2	0731	216,00D	0756D	792,00	0830	192,00	0831	1048	
2	1141E	324,00	1150	648,00	1150	237,00	1150	1158	
2	1327	28,80	1329	144,00	1329	88,80	1329	1348	
2	1615	19,20	1618	74,10	1620	88,80	1620	1628	
2	1841E	6,13	1900	45,10	1845	59,20	1858	1901	
2	2058E	139,00	2059	504,00	2059	207,00	2100	2201	
2	2316	28,80	2323	93,40	2327	88,80	2334	2349D	
3	0147	125,00	0155	288,00	0154	148,00	0200	0259	
3	0319E	81,60	0401	288,00	0401	133,00	0400	0518	
3	0551	6,13	0556	41,90	0553	59,20	0551	0558	
3	0646	6,13	0650	45,10	0650	59,20	0646	0658	
3	0725	3,94	0729	35,40	0729	59,20	0725	0744	
3	0831	14200,00	0837	2090,00	0833	429,00	0833	1055	
4	0243	6,35	0244	45,10	0245	59,20	0243	0249D	
4	0440E	6,35	0444	58,00	0442	59,20	0441	0501	
4	0615E	6,35	0619	45,10	0616	59,20	0617	0623	
4	1431	5,69D	1431D	38,60	1434	59,20	1433	1444	
4	1455	24,00D	1459D	144,00	1528	104,00	1549	1657	
4	2039	43,20	2040	144,00	2040	88,80	2040	2049	
4	2320	19,20	2322	74,10	2322	59,20	2322	2327	
5	0159	28,80	0200	93,40	0200	59,20	0200	0207	
5	0456	28,80	0457	75,70	0457	59,20	0457	0502D	
5	0524	19,20	0529	98,40	0532	133,00	0701	0723	
5	0929	125,00	0933	204,00	0932	148,00	0937	1022	
5	1710E	3130,00	1718	3750,00D	1718D	429,00	1717	2005	MULTIPLE PEAKS
6	0909E	9,60D	0909E	53,00D	0909E	59,20D	0909E	0914	
6	1214E	67,20D	1214E	159,00	1215	104,00	1216	1223	
7	0638	67,20	0643	159,00	0644	104,00	0644	0652	
7	0840	16,00	0842	53,00	0850	29,00	0850	0858	OBSERVED BY SOLRAD 9
7	2052	6,35	2109	53,00	2109	59,20	2052	2113D	
7	2237E	14,40D	2302E	98,40	2303	104,00	2306	2338	
13	2331	5,47D	2335E	37,80	2331	59,20	2343	0029D	
16	0455	29,00	0457	81,00	0458	29,00	0458	0505	OBSERVED BY SOLRAD 9
17	1357	32,00	1358	86,00	1359	27,00	1402	1405	OBSERVED BY SOLRAD 9
18	1533	80,00D	1533E	220,00D	1553E	67,00D	1533E	1553	OBSERVED BY SOLRAD 9
18	2156	130,00D	2201E	760,00	2158	130,00	2201	2208	OBSERVED BY SOLRAD 9
19	0216E	216,00	0216	32,20	0216	44,40	0216	0309D	
19	2243	3020,00	2247	2090,00	2245	429,00	2245	2343D	
20	0450	216,00	0452	288,00	0452	163,00	0453	0510	MULTIPLE PEAKS
20	0558	216,00	0601	504,00	0602	207,00	0603	0611	
20	2023	14,40	2024	45,10	2024	44,40	2024	2027	
24	0701	14,40	0702	67,60	0703	59,20	0701	0715	
24	1821	9,60	1822	70,80	1833	74,00	1833	1836D	
25	0202	6,13	0204	38,60	0204	59,20	0206	0216	
28	1738	56,00	1740	130,00	1741	40,00	1742	1744	OBSERVED BY SOLRAD 9

SUDDEN IONOSPHERIC DISTURBANCES

MAY 1973

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
01	0234	0440	0254	3	3	1			2				0231	X-RAY
01	0243	0325	0250	1	5	2	1	1			1		0243	12322
01	0916	1040	0930	2	5	4	1	4	3		1		0911	12336
01	1111	1140	1118	1+	5	3	1	3	2		2		1115	12322
01	1148	1240	1200	1+	5	3	1	6	2	2	5		1150	12322
01	1335	1353	1353	2	3	2		1		2	1		1337E	X-RAY
01	1408	1411D	1411	2-	5	3	2	5	4	2	8		1351	12336
01	1552	1815	1610	1+	5	4	2	5	5	2	10		NF	
01	1827	1850	1833	1+	5	2	1	2	2	2	10		1825	12336
01	1917	1922	1918	1	3		1					2	1915	12336
01	2030	2230	2045	2	5	1	2	2	3	2	9	1	2031	12336
02	0033	0100	0036	1-	3				2			1	0032	12336
02	0107	0200	0115	1-	3	1			2	2	2		0109	X-RAY
02	0222	0346	0308	1-	1				1				0222	X-RAY
02	0734	0928	0808	2-	5	2	1	3	3		1		0730	12336
02	0753	0850	0805	2	3	2	1	3	2		1		NF	
02	0928	1020	0940	2	3	3	1	4	1				0925	12336
02	1150	1315	1154	2	5	4	1	8	5		3		1149	12336
02	1328	1350	1333	1-	5	4	1	3	3	1	8		1329	12336
02	1531	1542	1535	1-	1					1			1527	12336
02	1615	1640	1620	1-	5	1		1	3	1	9		1615E	12336
02	1754	1830	1802	1-	1				1				1754	12335
02	1840	2015	1854	1-	5			2	1	1	10		1840E	12336
02	2040	2205	2055	2+	5	2	2	3	4	1	9	2	2039	12336
02	2320	0042	2339	1-	5				2		7		2320	12336
03	0147	0310	0200	2	5	1		1	2		1	1	0143	12336
03	0352	0433	0407	1+	3	1			2		1		0354E	12336
03	0831	1000	0839	3	5	8	1	8	3		1		0830	12336
04	0107	0211	0121	1-	1				1				0107	12323
04	0234	0334	0258	1-	1				1				0236	12336
04	0434	0530	0455	1-	1				1				0440E	12336
04	0610	0709	0621	1-	3			1					0610	12336
04	0936	0943	0937	1-	1			1					0935	12336
04	1229	1252	1237	1-	1			1					1235	12336
04	1429	1445D	1445	1	3				1	2	2		1415	12336
04	1456	1630	1525	1	5	2			2		9		1455	X-RAY
04	1838	1858	1842	1-	1					1			1839	12336
04	1934	2000	1942	1-	1					1			1936	12336
04	2038	2128	2042	1	5	2			2	1	9	1	2039	12336
04	2244	2330	2248	1	1		1						2245E	12336
04	2320	2350	2324	1-	5				2	1	7		2320	X-RAY
05	0011	0046	0018	1-	3				2				0011	12336
05	0156	0300	0205	1	3	1			2	3	3		0159	12336
05	0453	0523	0459	1-	3				2				0451	12336
05	0526	0626	0535	1-	3	1			2				0522	12336
05	0630	0756	0700	1-	3				2				0630	12336
05	0928	1045	0940	2	5	3	1	5	4	1	2		0924	12336
05	1659	1950	1723	3	5	4	3	7	6	4	15	1	1703	12336
05	1844	1854D	1854	1-	5				1		10		NF	
05	1921	2100	1944	1	5				2	1	10		1923E	12336
06	0902	0940	0913	2-	3	3	1	2	1		1		0904	12336
06	1138	1144	1139	1-	1			1					1136	12336
06	1213	1250	1219	1+	5	4	1	8	3	1	7		1210	12336
06	1954	2016	2001	1-	3				1		9		1952	12336
07	0637	0715	0647	1+	5	5	1	2	3	3	4		0637	12336
07	0730	0800	0732	1-	1	1							0730	12336
07	0838	0925	0848	1	3	3	1	2	1		1		0838	12336
07	2235	0024	2314	1-	1				1				2237E	X-RAY
09	0438	0513	0443	1-	1				1				0436	12336
09	2216	2310	2300	1-	1					1	1		*	
10	0556	0621	0603U	1-	1			1					0550E	12336
10	1639	1710U		1-	1	1							1638E	12336
13	2136	2259	2151	1	1				1				*	
14	0109	0244	0121	1	3				1		4		*	
14	1330	1353	1337U	1-	1			1					1330	12352
14	1432	1600	1450	1	5	3		2	2		7		1434	12352
14	1705	1708	1706	1-	1	1							1706	12345
15	1156	1230	1206	1-	1			1					1154	12349
16	0455	0530	0505	1-	3			1	3				0455	12352
17	1356	1425	1403	1	5	3	1	3	4	1	8		1354	12352
17	1908	2100	1920	2	5	4	2	4	3	3	11	1	1908E	12352

SUDDEN IONOSPHERIC DISTURBANCES

MAY 1973

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
18	0354	0430	0405	1-	3				2				0353	12352
18	1211	1217	1212	1-	1			1					1210	12352
18	1528	1610	1537	2-	5	4	1	4	3	3	11	1	1525	12352
18	2154	2320	2200	2	5	3	2	3	4	3	10	1	2154	12352
19	2244	0015	2250	2+	5	4		1	4	6	15	1	2244	12352
20	0450	0540	0456	1+	5	3	1	1	3	3	3	1	0448	12352
20	0559	0640	0606	2-	5	4	1	3	3	3	4		0559E	12352
20	1257	1320	1302	1-	5	2	1	1	1		1		1255	12352
20	2021	2046	2024	1-	3				1		6	1	2016	12352
20	2150	2230	2208	1-	3					1	6	1	2155E	12352
21	0401	0439	0407	1-	1				1				0401	12352
21	1213	1230	1216	1-	5	1		1	2		1		1210	12352
23	2354	0030D	0000	1-	1				1				2354	12352
24	0659	0740	0710	1-	5	3		1	2	1	2		0657	12352
24	1817	1935	1936	1	5				1	1	9		1818	12352
25	0200	0253	0216	1-	3				2				0200E	12352
25	0742	0751	0744	1-	1			1					0742	12359
27	1607	1620U	1611	1-	1	1							1608E	12357
28	1708	1717	1712	1-	1					1	1		1712	12357
28	1738	1830	1742	1	5	2			1	1	8	2	1735	12357
29	1739	1845	1743	1-	1						1		1735	12364

STATIONS REPORTING FOR MAY 1973

AAVSO (A1, A17, A23, A26, A34) (SEA) (A1, A19, A21, A28, A30, A31, A33, A36, A37, A38, ,SES) (A31) (SWF)
BAHRAIN (BH) (SWF)
BOULDER (BO) (SCNA, SEA)
CAPE RACE (LORAN-C) (CP) (LF-SPA, SES)
DARMSTADT (DA) (SWF)
GESASHI (LORAN-C) (GE) (LF-SPA, SES)
HAWAII (HA) (SFD)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HOKKAIDO (LORAN-C) (HO) (LF-SPA, SES)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
JUPITER (LORAN-C) (JP) (LF-SPA, SES)
KUHLUNGSBORN (KU) (SEA, SPA)
KURE (LORAN-C) (KR) (LF-SPA, SES)
MANILA (MA) (SWF, SCNA, SPA)
MARCUS (LORAN-C) (MR) (LF-SPA, SES)
MCMATH (MC) (SWF, SCNA)
NANTUCKET (LORAN-C) (NT) (LF-SPA, SES)
NEUSTRELITZ (NU) (SWF, SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
POITIERS (PO) (SEA)
PRESTON (LO) (SEA)
SACRAMENTO PEAK (SP) (SFD)
SAO PAULO (UM) (SPA, SES)
SOMERTON (SO) (SWF)
SYLT (LORAN-C) (ST) (LF-SPA, SES)
TABLE MOUNTAIN (TM) (SWF, SPA, LF-SPA)
TORINO (TN) (SPA)
TRINIDAD (TR) (SWF)
UPICE (UI) (SEA)
UPOLO POINT (LORAN-C) (UP) (LF-SPA, SES)
WHITE SANDS (WS) (SWF)
YAP (LORAN-C) (YP) (LF-SPA, SES)

A31 MISSOULI, MONTANA IS NOW SUBMITTING SWF REPORTS

SACRAMENTO PEAK IS NOW SUBMITTING SFD REPORTS

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-03	0000-2020 TR
02-04	0500-0500 A26
02	1645-1654 MC
04	1405-1614 UM (17 kHz)
05	0740-0845 UM (16 kHz)
08	0735-0815 UM (16 kHz), 1005-1340 UM (16 kHz)
09	0000-0235 BO, 1230-2400 TR, 1800-1815 BO, 1942-2123 BO
10-19	0900-1830 A21
10	0000-1910 TR, 0750-0850 UM (16 kHz)
11	1400-1514 UM (17 kHz)
12-14	0425-1145 BO
13	2150-2350 MA
14	0759-0830 UM (16 kHz), 2116-2132 TM
15	1911-2021 MC
16	0000-0110 MA, 2201-2218 TM
17	0000-0110 MA
18	1400-1734 UM (17 kHz)
19-21	2318-1620 BO
20	1215-1430 PO, 1540-1800 PO, 1920-2120 A1
21	1325-1430 PO, 1800-1814 TM
22	0700-0842 UM (16 kHz), 1300-1745 PO
23	0748-0845 UM (16 kHz)
24	2336-2344 TM
25	0642-1423 WS, 1356-1721 UM (17 kHz)
26-27	2050-1635 WS, 2235-0325 MA
27-31	1600-1315 PO
30	0037-1418 WS
31	1228-1255 TM

SID's BY McMATH REGION

MAY 1973

DAY	22	23	35	36	45	49	52	57	59	64	X-RAY	UN-KNOWN	NO FP
01	3			5							2	1	
02			1	10							2	1	
03				3									
04		1		10							2		
05				8								1	
06				4									
07				3							1		
08													
09				1									1
10				2									
11													
12													
13													1
14					1		2						1
15						1							
16							1						
17							2						
18							4						
19							1						
20							5						
21							2						
22													
23							1						
24							2						
25							1		1				
26													
27								1					
28								2					
29										1			
30													
31													

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1973

MAY 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
01	0000	0200	BOUL													
	0000	0125	HARV													
	0000	0727	CULG				0011	0223		0000	0237					IN,W
			CULG							0124		1				IIIB
			CULG							0228						IIIB,W
			CULG				0234	0247	1							IV
			CULG							0237	0727	1				IS
			CULG							0240	0247	1				IV
			CULG										0247	0400	1	
			CULG							0247	0303	2				IIH
			CULG				0247	0415	3							IV CONT
			CULG	0249	0335	2				0247	0355	3				IV
			CULG							0313		1				IIIB
			CULG				0415	0505	2	0355	0505	2				IV CONT
	0501	1008	WEIS							0931.1	0931.6	1				IIIG
			WEIS							1316.7	1319.6	3				IIIG,RS
	1247	2400	HARV				1317	1320	3	1317	1321	3				IIIGG
			HARV							1322	1659	1				IN
			WEIS				1344.5	1344.6	2							IIIB
			HARV				1418	1422	2							IIIGG
			HARV				1428		3	1428		2				IIIG
			WEIS							1428.0	1428.1					IIIG
			WEIS				1531.1	1531.2	1							IIIB,RS
			HARV				1823	1831	2							IIIGG
	1200	2400	BOUL										1845.0	1855.0	1	IIF
			HARV							1847	1854	1	1851	1854	1	UNCLF
			BOUL							1847.8	1855.0	1				IIH
			HARV				1848	1849	1							IIIG
	0942	2339	SGMR										1850.0	1853.7	1	II
			HARV				1856	2050	1							IN
			HARV				1914	1918	3	1915	1917	3				IIIGG,V
			BOUL							1915.1	1915.8	2	1915.1	1915.8	2	III
			SGMR										1915.2	1915.6	2	III
			BOUL							1917.0	1917.4	1	1917.0	1917.4	1	III
			HARV							2002	2003	3	2002	2004	3	IIIG
			BOUL							2002.3	2005.0	2	2002.3	2005.0	2	IIIG
			SGMR										2002.8	2003.5	2	III
			HARV				2031	2040	3							IVP
			HARV							2036	2240	1				IN
	2030	2400	CULG							2037	2400	1				IS
			CULG				2039	2158	1	2039	2158	1				IIIS
			CULG				2041	2042.5	1	2041	2043.5	1				IIIG
			BOUL										2053.8	2054.0	1	III
			CULG				2057	2058	1	2057	2059	2				IIIG,V
			HARV				2057	2058	2	2057	2059	3	2057	2059	3	IIIG,V
			BOUL							2057.2	2100.0	3	2057.2	2100.0	3	IIIG
			SGMR										2057.4	2059.0	2	V
			BOUL							2104	2400	1	2104	2400	1	CONT
			BOUL							2104.1	2104.7	3	2104.1	2104.7	3	IIIG
			SGMR										2104.8	2109.3	2	IIIG
			HARV				2105	2110	3	2104	2109	3	2104	2109	3	IIIGG,V
			CULG				2105	2108	1	2104	2110	3				IIIGG,V
			BOUL							2105.5	2107.0	3	2105.5	2107.0	3	IIIGG
			CULG							2110	2111.5	1				IIIG
			CULG							2110	2135					IIN
			HARV				2122	2123	1	2122	2123	3	2123		3	IIIG,V
			CULG				2122.5	2123	1	2122.5	2124	2				IIIG,V
			BOUL							2122.7	2123.6	3	2122.7	2123.6	3	III
			SGMR										2122.9	2123.5	2	III
			HARV				2203	2209	2	2204	2206	2	2205		2	IIIGG
			CULG							2205	2206	1				IIIG
			SGMR										2205.2	2205.6	1	III
			HARV							2240	2400	1				I
			CULG							2310	2310.5	1				IIIG
			CULG							2320.5	2321	1				IIIG,U
			CULG							2326	2327.5	1				IIIG,U
			HARV				2326	2327	1	2326	2327	2				IIIG
			BOUL							2336.5	2337.3	2	2336.5	2337.3	2	IIIG
02	0000	0125	HARV							0000	0110	1				I
	0000	0729	CULG							0000	0716	1				IS
			CULG							0025.5	0026	1				IIIG
			CULG							0031	0033	1				IIIGG,U
			HARV				0032	0033	3	0032	0034	3	0033	0034	3	IIIGG,V
	0000	0200	BOUL							0032.1	0036.3	3	0032.1	0036.3	3	IIIG
			CULG				0032.5	0034	1	0032.5	0035	3	0033	0035	1	IIIG,V
			CULG							0037	0038	1				IIIG
			BOUL							0037.8	0037.9	2	0037.8	0037.9	2	III
			CULG							0229.5	0231.5	1				IIIG
			CULG							0313	0313.5	1				IIIB
			CULG							0321.5	0328.5					IIIGG,W
			CULG				0424.5	0425.5	1	0424.5	0426.5	2				IIIG
	0501	0553	WEIS													
			CULG							0507.5	0508	2				IIIB
			CULG							0515.5	0516.5	1				IIIG
			CULG							0530	0716	1				IIIN
	0655	1011	WEIS							1038.8	1039.5	1				IIIG
	0941	2349	SGMR										1038.9	1039.4	1	III
			WEIS							1132.5	1132.9	1				IIIB
			WEIS							1139.0	1140.5	2				IIIG,V

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MAY 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
02			SGMR										1139.0	1151.4	3	IIIG
			WEIS							1148.5	1151.4	3				IIIG,V
			WEIS							1152.2	1156.0	1				I
			SGMR										1523.3	1524.0	1	III
	1500	2400	BOUL							1523.5	1524.6	1	1523.5	1524.6	1	III
			BOUL										1622.1	1623.6	1	III
			HARV							1805	1809	1	1805	1809	1	IIIG
	1247	2400	HARV							1805	1818	1				IN
			BOUL							1805.5	1813.4	1	1805.5	1813.4	1	IIIG
			HARV				1806	1838	1							IN
			BOUL										1917.9	1918.3	1	III
			BOUL							2020.8	2027.5	3	2020.8	2027.5	3	IIIG
			HARV				2021	2024	2	2020	2024	2	2021	2023	3	IIIGG,V
			SGMR										2021.2	2023.4	2	III
			HARV				2039	2052	3							IIIGG,V
	2030	2400	CULG							2049	2349	1				IIIN
			CULG				2148.5	2152.5	2	2147.5	2153.5	3	2149	2150	1	IIIGG,V
			BOUL							2148.5	2154.9	3	2148.5	2154.9	3	IIIGG
			SGMR										2148.7	2152.3	2	IIIG
			HARV				2149	2152	3	2148	2153	3	2148	2153	3	IIIGG,V
			BOUL										2225.9	2226.3	1	III
			BOUL										2233.9	2234.0	1	III
			BOUL										2253.2	2253.5	1	III
			BOUL							2305.5	2311.9	2	2305.5	2311.9	2	IIIGG
			CULG				2309	2311.5	1	2305	2312	1	2306.5	2309	1	IIIGG
			HARV							2311	2312	2	2311		1	IIIG
			BOUL							2325.7	2325.9	1	2325.7	2325.9	1	III
			BOUL										2334.8	2334.9	1	III
			CULG							2340	2342	1				IIIG
			BOUL							2340.2	2342.0	2	2340.2	2342.0	2	IIIG
			BOUL							2342	2400	1	2342	2400	1	CONT
03	0000	0200	BOUL							0000	0200	1	0000	0200	1	CONT
	0000	0728	CULG							0015.5	0019.5	1	0017	0018	1	IIIG
			BOUL							0015.7	0019.8	2	0015.7	0019.8	2	IIIG
			CULG				0025	0029.5	1	0024.5	0030.5	3	0025	0029	1	IIIGG,V
	0000	0125	HARV				0025	0029	1	0025	0030	2				IIIGG
			BOUL							0025.0	0030.0	3	0025.0	0030.0	3	IIIGG
			CULG							0038		1				IIIG
			CULG							0040	0041	1				IIIG
			CULG							0054.5	0055.5	1				IIIG
			CULG							0106.5	0108	1				IIIG
			CULG				0132.5	0133	1	0132	0133.5	2				IIIG
			CULG							0140	0656	1				IIIN
			CULG				0154	0155.5	1	0154	0158	1				IIIGG
			CULG							0200	0433.5	1				I
			CULG							0316	0317	1				IIIG,U
			CULG				0334.5	0336	1	0334.5	0336.5	2				IIIG,U
			CULG							0419	0420	1				IIIG
			CULG							0440.5	0444	1				IIIG,U
			CULG							0444.5	0504	1				II
			CULG							0450	0715	1				IV
			CULG							0450	0502	1				IIIG
			CULG							0507	0509	1				IIIG
			CULG				0510.5	0512.5	1	0510.5	0513	1				IIIG,U
	0504	1345	WEIS							0511.2	0512.5	1				IIIG,CONT
			CULG							0519	0523	1				IIIGG,U
			CULG				0537.5	0539	2	0537.5	0540	3	0538.5	0539.5	1	IIIG,V
			WEIS							0538.0	0539.3	3				IIIG
			CULG							0545	0546.5	1				IIIG
			CULG							0606	0608	1				IIIG
			WEIS							0626.4	0633.1	3				IIIGG
			CULG				0628.5	0633.5	1	0628.5	0633.5	2				IIIGG,U,V
			CULG				0634.5	0635	1	0634.5	0635.5	1				IIIG
			CULG							0637.5	0638	1				IIIG
			CULG							0658	0708	2				IIIGG,U
			WEIS							0658.0	0658.5	1				IIIG
			CULG							0709	0712	1				IIIG
			WEIS							0752.3	0755.2	2				IIIG
			WEIS							0757.5	0757.6	2				IIIG
			WEIS							0833.0	0915.0	3				IV
			WEIS							0834.5	0854.0	3				II
			WEIS							0837.5	0838.3	3				IIIG
			WEIS							0917.2	0922.0	3				IIIG
			WEIS							0934.5	1004.5	2				IV
			WEIS							1045.0	1045.5	2				IIIG
	0939	2341	SGMR										1045.3	1045.7	2	III
			SGMR										1121.0	1122.1	1	III
			WEIS							1121.0	1122.6	1				IIIG
			WEIS							1142.5	1144.8	3				IIIG
			SGMR										1142.6	1145.0	3	IIIG
			WEIS							1219.9	1221.1	2				IIIGG
			SGMR										1220.0	1221.4	2	V
	1200	2400	BOUL							1220.1	1221.4	2	1220.1	1221.4	2	III
			BOUL							1327.0	1327.3	1	1327.0	1327.3	1	III
			SGMR										1327.2	1345.6	2	IIIG
			BOUL										1329.4	1329.8	1	III
			BOUL							1343.1	1345.7	1	1343.1	1345.7	1	IIIG
			BOUL							1422.8	1423.7	2	1422.8	1423.7	2	III
	1403	1812	WEIS							1422.8	1423.2	1				IIIG

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				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
03	1247	2400	HARV				1423	1426	1	1423	1426	2	1423	1426	2	IIIG
			SGMR										1423.0	1426.1	2	IIIG
			WEIS							1425.6	1426.0	1				IIIG
			BOUL							1425.7	1426.4	2	1425.7	1426.4	2	IIIG
			BOUL							1507.1	1507.6	2	1507.1	1507.6	2	III
			SGMR										1507.2	1510.8	2	IIIG
			WEIS							1507.2	1507.5	1				IIIB
			BOUL							1509.9	1510.8	1	1509.9	1510.8	1	III
			BOUL							1541.6	1542.2	2	1541.8	1542.2	2	III
			SGMR										1541.8	1554.8	2	IIIG
			BOUL										1550.2	1550.5	1	III
			WEIS							1551.5	1554.1	3				IIIG,V
			BOUL							1551.8	1555.0	3	1551.8	1555.0	3	IIIG
			HARV				1552	1553	2	1550	1555	3	1551	1555	3	IIIGG,V
			HARV							1709	1710	3	1709	1710	3	IIIG
			BOUL							1709.4	1710.1	2	1709.4	1710.1	2	III
			WEIS							1709.5	1709.8	1				IIIB
			SGMR										1709.7	1710.1	1	III
			BOUL							1716.0	1716.2	2	1716.0	1716.2	2	III
			BOUL							1733.8	1735.5	3	1733.8	1735.5	3	IIIG
			WEIS							1733.8	1734.5	2				IIIG
			SGMR										1733.9	1734.8	2	III
			HARV							1734	1735	3	1734	1735	3	IIIG
			HARV							1818	1822	2	1818	1822	2	IIIG
			BOUL							1818.5	1819.4	2	1818.5	1819.4	2	IIIG
			SGMR										1818.7	1821.9	1	IIIG
			BOUL										1820.5	1820.8	2	III
			BOUL							1821	2005	1	1821	2005	1	CONT
			BOUL							1821.5	1821.7	2	1821.5	1821.7	2	III
	2029	2400	CULG							2056.5	2358	1				IIIN
			BOUL							2056.8	2057.0	1	2056.8	2057.0	1	III
			CULG							2133.5	2134.5	1				IIIG
			BOUL							2134.2	2134.4	1	2134.2	2134.4	2	III
			CULG							2137.5	2140	1				IIIGG,V
			BOUL							2137.7	2140.2	2	2137.7	2140.2	2	IIIG
			SGMR										2138.8	2140.2	1	III
			HARV							2139	2140	2	2139	2140	2	IIIG
			CULG							2143.5	2144.5	1				IIIG
			BOUL							2143.6	2144.2	2	2143.8	2144.2	2	IIIG
			BOUL							2334.7	2341.5	2	2334.7	2341.5	2	IIIG
			CULG				2307.5	2339.5	1	2334.5	2341.5	1				IIIGG
			HARV							2338	2340	2				IIIGG
			HARV							2348	2353	1				I
			CULG							2348.5	2354.5	1				IIIGG
			BOUL							2354.0	2359.2	2	2354.0	2359.2	2	IIIG
04	0000	0729	CULG							0000	0356.5	1				IIIN
	0000	0126	HARV													
			CULG							0005	0710	1				I
	0000	0200	BOUL							0109.0	0109.7	1	0109.0	0109.7	1	III
			BOUL										0110	0127.0	1	CONT
			CULG				0235.5	0236	1	0235.5	0236.5	2	0235.5	0236.5	1	IIIB,V
			CULG							0435	0436	1				IIIG
			CULG				0436.5	0437	1	0436.5	0439.5	2				IIIGG,V
			CULG				0508.5	0509	1	0508.5	0509.5	1				IIIG
			CULG							0605.5	0606.5	1				IIIG
	0501	1813	WEIS							0800.8	0801.3	1				IIIB
			WEIS							0854.0	0854.5	1				IIIG
			WEIS							0935.5	0938.3	1				IIIG
			WEIS							1122.5	1124.0	1				IIIG
	0938	2342	SGMR										1123.1	1124.1	1	III
	1208	2400	BOUL										1222.7	1223.5	1	III
	1247	2400	HARV							1256	1602	1				IN
			BOUL										1418.2	1418.4	1	III
			BOUL										1510.4	1510.6	1	III
			BOUL							1524.7	1525.0	1	1524.7	1525.0	1	IIIG
			SGMR										1541.8	1541.3	1	III
			BOUL							1541.4	1541.7	1	1541.4	1541.7	1	III
			SGMR										1656.5	1656.7	1	III
			BOUL							1657.8	1658.7	1	1657.8	1658.7	1	IIIG
			BOUL										1950.7	1950.9	1	III
	2029	2400	CULG							2045	2400	1				I
			BOUL										2048.6	2048.8	1	III
			CULG							2152						IIIB,W
			CULG							2212.5						IIIB,W
			CULG							2246.5	2252	1				IIIGG
			BOUL							2247.1	2252.0	1	2247.1	2252.0	1	IIIGG
			BOUL										2348.0	2400	1	IIIGG
05	0000	0200	BOUL										0000	0007.0	1	IIIGG
	0000	0127	HARV													
	0000	0728	CULG							0125.5	0540.5	1				IIIN
			CULG				0241.5	0246	1							I
			CULG							0450.5	0452	1				IIIG
			CULG							0635		1				IIIB
			CULG							0637.5		1				IIIB
	0501	0748	WEIS							0738.5	0739.1	1				IIIG
	0820	1815	WEIS													
	1208	2400	BOUL							1306.4	1309.8	1	1306.4	1309.8	1	IIIG
	1247	2400	HARV				1655	1656	3							I

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				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
05			HARV	1715	1720	3	1715	1724	2							IV
			BOUL							1933.9	1939.5	1	1933.9	1939.5	1	IIIGG
			HARV							1934	1938	1	1934	1938	1	IIIGG
	0937	2343	SGMR										1936.2	1936.9	1	III
			BOUL										1941.6	1944.2	1	IIIG
			HARV							2117	2120	2				IIIGG
	2029	2400	CULG				2117	2120	1	2117	2120.5	2				IIIGG,V
			BOUL							2119.1	2119.6	2				III
			HARV				2246	2248	2							IIIGG
06	0000	0127	HARV													
	0000	0728	CULG				0020	0021.5	1	0021	0021.5	1				IIIG
			CULG							0039.5	0041	1				IIIG
			CULG							0122	0522	1				IIIN
			CULG							0128.5	0132.5	1				IIIGG
	0000	0200	BOUL							0129.0	0132.6	1	0129.0	0132.6	1	IIIGG
			CULG				0220.5	0221	1	0220	0221	1				IIIG
			CULG							0228	0229.5	1				IIIG
			CULG				0443	0444	1	0441.5	0445	1				IIIG,V
			CULG							0524	0531.5	1				IIIGG
			CULG							0702		1				IIIB
	0501	1526	WEIS							0702.2	0702.4	1				IIIB
			WEIS							1036.3	1036.9	1				I
			WEIS							1057.1	1103.1	1				IIIG
	0936	2345	SGMR										1057.3	1103.2	1	IIIG
			SGMR										1121.0	1130.7	1	IIIG
			WEIS							1132.6	1133.1	2				IIIG
			WEIS							1136.9	1136.4	1				IIIG
			WEIS							1352.5	1352.6	2				IIIB
	1248	2400	HARV							1419	1420	2				IIIG
			WEIS							1419.5	1420.4	2				IIIG
			WEIS							1456.8	1457.6	3				IIIGG
			HARV				1457	1458	1	1457	1500	3				IIIGG
	1659	1814	WEIS													
			HARV				1958	2000	1	1956	2001	2				IIIGG
	2029	2106	CULG													
	1200	2400	BOUL							2354.2	2356.4	2	2354.2	2356.4	2	IIIG
	2203	2400	CULG				2355	2356	1	2354	2358	1				IIIGG
			HARV							2355	2356	1				IIIGG
07	0000	0130	BOUL													
	0000	0127	HARV							0008	0120	1				IN
	0000	0728	CULG				0015	0628.5	1							N,FAST DFT
			CULG							0042.5	0626	1				IIIN
			CULG				0104	0106	1	0105	0106	1				IIIG
			CULG				0404	0407	1	0406.5	0408	1				IIIG
	0501	1815	WEIS							0515.4	0519.6	2				IIIGG
			CULG				0516	0519.5	1	0515.5	0520.5	2				IIIG,U
	0935	2346	SGMR													
			WEIS							1025.9	1027.5	2				IIIG
			WEIS							1030.4	1031.3	2				IIIGG
			WEIS				1048.4	1048.5	1							IIIG,RS
			WEIS				1053.3	1053.6	1							IIIG
			WEIS							1058.9	1059.3	1				IIIG
			WEIS							1104.9	1105.1	1				IIIG
			WEIS							1127.5	1127.7	1				IIIG
			WEIS							1346.2	1346.4	1				IIIB
	1247	2400	HARV				1836	1837	1							IIIG
	1625	2400	BOUL										1907.6	1907.7	1	III
			BOUL							1912.5	1912.5	1				III
			BOUL							1941.5	1941.6	1	1941.5	1941.6	1	III
			HARV				2002	2007	1	2004		2				IIIGG
	2029	2400	CULG							2050.5	2141	1				IIIN
			CULG							2139	2139.5	1				IIIG
			BOUL							2139.0	2139.4	1	2139.0	2139.4	1	III
			CULG							2149.5	2152	1				IIIB
			BOUL							2151.7	2152.1	1	2151.7	2152.1	1	III
08	0000	0128	HARV													
	0000	0728	CULG							0119	0648					IIIN,W
	0000	0200	BOUL							0119.2	0119.5	1	0119.2	0119.5	1	III
			CULG				0515	0516	1							FAST DRIFT
			CULG				0538	0539.5	1	0538	0540	1				IIIGG
	0501	1003	WEIS							0538.0	0539.0	2				IIIGG
			CULG							0546	0548	1				IIIG
			CULG				0605.5	0606.5	1	0605.5	0607.5	2	0605.5	0606.5	1	IIIG,V
			WEIS							0605.8	0606.5	2				IIIG
			CULG							0609	0609.5	1				IIIG
			CULG							0617.5	0618.5	1				IIIG
			CULG							0621	0622	1				IIIB
			CULG							0648		1				IIIB
	0933	2347	SGMR													
	1030	1024	WEIS													
	1200	2400	BOUL													
	1247	2400	HARV				2236	2237	1	2236	2237	2				IIIG
	2029	2400	CULG				2236	2237.5	1							FAST DRIFT
09	0000	0128	HARV													
	0000	0728	CULG							0206.5	0207.5	1				IIIG,V
	0457	1758	WEIS													

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1973

MAY 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
09			CULG							0626.5	0650	1					IIIS
	0932	2348	SGMR														
	1248	2400	HARV														
	1600	2400	BOUL														
	2029	2400	CULG							2049.5	2400						IIIS,W
10	0000	0728	CULG							0000	0704.5	1					IIIS
	0000	0129	HARV														
	0000	0200	BOUL							0010	0200	1	0010	0200	1		IIIN
	0653	1824	WEIS														
			CULG							0658	0659	1					IIIG
	1200	1500	BOUL							1240.5	1500.0	2	1240.5	1500.0	2	IV	
	0931	2349	SGMR										1320.0	1453.0	1		CONT
			SGMR										1625.9	1626.3	1		III
	1247	2400	HARV							1626	2131	1	1626	1956	1		IIIN
	1800	2400	BOUL							1801.2	1802.4	1	1801.2	1802.4	1		III
			BOUL							1805.3	2400	1	1805.3	2400	1		CONT
			BOUL							1810.0	1810.4	1	1810.0	1810.4	1		III
	2029	2400	CULG							2049	2400	1					IIIS
11	0000	0728	CULG							0000	0705	1					IIIS
	0000	0129	HARV														
	0000	0200	BOUL							0000	0200	1	0000	0200	1		CONT
	0501	1333	WEIS														
	0930	2356	SGMR														
	1130	2400	BOUL							1300.6	1723.1	1	1300.6	1723.1	1		CONT
	1337	1826	WEIS														
	1248	2400	HARV							1602	2046	1	1602	2046	1		IIIN
	2029	2202	CULG							2045	2202	1					IIIS
			BOUL							2045.7	2045.8	1	2045.7	2045.8	1		III
			BOUL							2211.6	2211.7	1	2211.8	2211.7	1		III
	2241	2400	CULG							2241	2400						IIIS,W
			BOUL							2329.9	2330.5	1	2329.9	2330.5	1		III
			CULG							2330	2330.5	1					IIIG
12	0000	0728	CULG							0000	0648						IIIS,W
	0000	0130	HARV														
	0000	0200	BOUL										0012.8	0013.0	1		III
			BOUL							0021.5	0026.8	1					IIIG
	0501	1828	WEIS														
	0929	2351	SGMR														
	1130	2400	BOUL										1237.7	1238.2	1		III
	1247	2400	HARV														
			BOUL										1544.5	1544.9	1		III
			BOUL							1810.5	1814.8	1	1810.8	1814.8	1		IIIG
			BOUL							1946.4	1946.7	1	1946.4	1946.7	1		III
	2029	2400	CULG							2130	2400						IIIS,W
13	0000	0728	CULG							0000	0018						IIIS,W
	0000	0131	HARV														
	0000	0200	BOUL							0013.8	0013.9	1	0013.8	0013.9	1		III
			BOUL							0017.7	0017.8	1	0017.7	0017.8	1		III
			CULG							0020	0640	1					IIIN
	0501	0655	WEIS														
	0934	1829	WEIS														
	1248	2400	HARV							1248	2200	1					IN
	1130	2400	BOUL										1405.5	1405.9	1		III
			BOUL							1513.3	1513.8	2	1513.3	1513.8	2		III
	0929	2352	SGMR										1513.7	1516.2	1		IIIG
			BOUL							1515.8	1516.2	2	1515.8	1516.2	2		III
			BOUL							1721.6	1722.1	2	1721.6	1722.1	2		IIIG
			SGMR										1721.6	1722.0	2		III
	2029	2400	CULG							2050	2400	2					IS,CONT
			CULG							2121.5	2233	1					IIIN
			HARV							2208	2400	1					I
			SGMR										2227.8	2227.3	2		III
			CULG							2227.5	2229	1					IIIG,V
			BOUL							2227.7	2229.2	2	2227.7	2229.2	2		IIIG
			BOUL							2235	2400	2	2235	2400	2	IV	
			HARV				2252	2255	1								IIIGG
14	0000	0728	CULG							0008	0035	1					CONT
			CULG							0008	0348	1					IS
	0000	0230	BOUL							0000	0120	2	0000	0120	2	IV	
			CULG							0020	0022	1					IIIG,V
	0000	0132	HARV							0021		1					IIIG
			HARV							0040	0042	1					IIIG
			CULG							0040	0043	1					IIIGG,V
			CULG							0219.5	0221	1					IIIG
			CULG							0245.5	0248.5	1					IIIG
			CULG							0318.5	0319.5	1					IIIG
			CULG							0321.5	0322.5	1					IIIG
			CULG							0324.5	0327.5	1					IIIG,V
			CULG							0503	0503.5	1					IIIG
			CULG							0546.5	0547.5	1					IIIG
			CULG							0629.5		1					IIIG
	0927	2353	SGMR														
	0501	1634	WEIS														
	1248	2400	HARV							0954.8	0955.6	1					IIIG
	1639	1832	WEIS														

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MAY 1973

MAY 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
14	1130	2400	BOUL							1648.2	1652.1	1				IIIG
	2029	2400	CULG							2119	2119.5	1				IIIG
			CULG							2145	2349.5	1				IIIN
15	0000	0133	HARV													
	0000	0230	BOUL													
	0000	0728	CULG							0148.5	0149	1				IIIG
			CULG							0154.5		1				IIIB
			CULG							0156	0156.5	1				IIIG
	0501	1833	WEIS							0805.7	0806.3	1				IIIG,RS
	0926	2354	SGMR													
	1247	2400	HARV													
	2029	2400	CULG													
	1130	2400	BOUL										2319.8	2320.0	1	III
16	0000	0230	BOUL													
	0000	0133	HARV													
	0000	0728	CULG							0115	0642	1				IIIN
			CULG				0454.5	0455.5	1	0454.5	0455.5	1				IIIG
			CULG				0458	0458.5	1	0458	0458.5	1				IIIG
			CULG							0459.5	0500.5	1				IIIG
	0501	0703	WEIS													
	0721	1035	WEIS							1115.2	1116.5	1				IIIG,U
	0925	2355	SGMR										1116.8	1116.8	1	III
	1130	1400	BOUL													
	1248	2400	HARV													
	1700	2400	BOUL							1600	2400	1	1600	2400	1	CONT
	2029	2400	CULG							2058	2320	1				I
			CULG							2059		1				IIIB
			CULG							2100	2308	1				IIIS
			CULG							2234	2234.5	1				IIIG,U
			CULG							2328.5	2354	1				IIIN
17	0000	0230	BOUL							0000	0210	1	0000	0210	1	CONT
	0000	0133	HARV													
	0000	0728	CULG							0002	0414.5					IN
			CULG							0012	0533.5	1				IIIN
			CULG							0422	0712	1				IS
			CULG							0549	0555					IIIG,W
			CULG							0607	0608					IIIG,U,W
			CULG							0610.5						IIIB,W
			CULG							0623.5	0629.5					IIIG,U,W
			CULG				0702	0709	1	0702	0709	1				IIIGG
	0501	1345	WEIS							0903.3	0903.6	2				IIIG,RS
			WEIS							1018.2	1019.5	1				IIIG
	1130	1600	BOUL							1210	1600.0	1	1210	1600.0	1	CONT
	1247	2400	HARV							1247	2028	2				I
	0924	2356	SGMR										1305.8	2356.0	1	CONT
			HARV				1330	1333	1							IIIGG
			WEIS							1343.5	1344.3	2				IIIRS
			HARV				1344	1345	1	1343	1345	2				IIIGG,RS,U
			HARV				1347	1349	1							IIIGG
			HARV	1355	1358	1	1355	1359	2	1355	1357	2				IIIGG
	1400	1837	WEIS													
			HARV				1401	1405	2							IIIGG
			HARV				1526	1527	1							IIIGG
	1730	2400	BOUL							1730.0	2400	1	1730.0	2400	1	CONT
			HARV				1749	1751	2							IIIGG
			HARV				1825	1829	2							IIIGG
			HARV	1908	1913	2	1908	1918	3	1908	1911	3				IIIGG,V,RS
			BOUL							1908.0	1911.2	2	1908.8	1911.2	2	IIIG
			SGMR										1910.6	1911.0	2	III
			HARV							1911	1931	3	1916	1926	2	II
			BOUL							1911.2	1916.2	2	1912.9	1921.7	2	IIF
			BOUL							1912.0	1922.2	3	1917.6	1923.4	3	IIH
			SGMR										1912.1	1919.6	2	II
			SGMR										1917.6	1923.0	2	II
			HARV							2028	2400	1				IN
			HARV				2033	2035	1							IIIGG
	2029	2400	CULG				2050	2057	1	2048	2400	1				IS,CONT
			CULG							2053	2400	2				IIIS
			CULG							2108	2210.5	1				CONT
18	0000	0728	CULG							0000	0235.5	1				IS,CONT
			CULG							0000	0701.5	1				IIIS
	0000	0134	HARV							0000	0130	1				IN
	0000	0230	BOUL							0000	0150	1	0000	0150	1	CONT
			HARV				0016	0018	2							IIIGG
			CULG							0249	0711	1				IS
			CULG				0345	0350	1	0344.5	0348.5	1				FAST DRIFT
			CULG							0350	0354.5	1				IIIGG,V
			CULG							0356	0357	1				IIIG
			CULG							0457.5	0458.5	1				IIIG
			CULG				0459	0501	1							FAST DRIFT
			CULG				0627	0628	1	0627	0628	1				IIIG
			CULG				0628.5	0632.5	1							FAST DRIFT
			CULG				0628.5	0629.5	1							IIIG
	0923	2357	SGMR										0923.0	2357.0	1	CONT
	1130	2400	BOUL							1200	2400	2	1200	2400	2	CONT
	1247	2400	HARV							1523	1525	2				IIIG,U

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MAY 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
18			HARV				1527	1532	3	1527	1532	3	1528	1531	2	IIIGG,RS,U
	0501	1839	WEIS							1527.3	1531.5	3				IIIGG,U,RS
			BOUL							1528.0	1532.7	3	1528.0	1532.7	2	IIIGG
			SGMR										1528.0	1532.0	2	V
			HARV							1532	1537	2				II
			BOUL							1532.2	1535.0	2	1532.2	1535.0	2	II
			WEIS							1532.5	1537.0	1				IDC
			HARV							1547	1804	1	1555	1804	1	IIIN
			HARV							1804	1956	1	1804	1956	1	IIIS
			HARV							1956	2054	1	1956	2054	1	IIIN
	2029	2400	CULG							2049	2400	2				IIIS
			HARV				2151	2212	3	2154	2203	3				IIIGG,V,RS
			CULG				2154	2204	1							FAST DRIFT
			CULG				2155	2158	2	2154	2158	2				IIIGG
			CULG				2200	2203.5	1	2201	2203	1				IIIG
			HARV				2254	2310	2							UNCL
			CULG							2305	2400	1				IS,CONT
			HARV							2315	2400	1				I
			HARV				2327	2328	1							UNCL
			HARV				2335	2336	2							IIIG,RS
19	0000	0135	HARV							0000	0135	2				I
	0000	0230	BOUL										0000	0025	2	CONT
	0000	0728	CULG							0000	0623	1				IIIS
			CULG							0000	0658	2				IS
			HARV				0001	0008	1							UNCL
			BOUL										0025	0203.5	3	IV
			CULG				0100	0248	1	0000	0700	1				CONT
	0501	0715	WEIS													
	0922	2358	SGMR										0922.0	2358.0	1	CONT
	1155	1848	WEIS													
	1130	2400	BOUL										1200	2400	2	CONT
	1248	2400	HARV				1540	1604	1	1540	1704	1	1626	1737	1	IN
			HARV							1704	2000	1				I
			HARV							1739	2115	1	1739	2115	1	IIIN
			HARV				1846		3	1846		3				IIIG
			HARV							2000	2252	1				IN
	2029	2400	CULG				2049	2105	1	2048	2400	2				IS,CONT
			CULG							2100	2400	1				IIIS
			CULG							2113.5	2115	1				IIIG
			CULG				2222	2223	1	2222	2223.5	1				IIIG
			CULG							2234.5	2235.5	1				IIIG
			HARV				2239	2253	3	2239	2247	3	2240	2246	3	IIIGG,V,RS
			BOUL							2239.8	2240.5	2	2239.8	2240.5	2	III
			BOUL							2243.7	2247.7	3	2243.7	2247.7	3	III
			CULG	2244	2245	1	2239.5	2246	2	2239	2247.5	3	2244	2246	1	IIIGG,V
			SGMR										2244.0	2246.9	3	IIIG
			CULG										2245	2255	1	
			BOUL							2245.8	2247.5	3				II
			CULG				2247.5	2252	1							FAST DRIFT
			CULG							2248.5	2258	2				II
			HARV							2249	2254	2				II
			BOUL							2250.5	2259.5	2	2250.5	2259.5	2	IIF
			BOUL							2252.7	2256.6	2				IIH
			HARV				2253	2300	1	2252	2400	1				I
			CULG							2300.5	2301	1				IIIG
20			CULG							0000	0710	1				IIIS
	0000	0728	CULG							0000	0711.5	1				IS,CONT
	0000	0135	HARV							0000	0134	2				I
	0000	0230	BOUL							0000	0150	2	0000	0150	2	CONT
			CULG							0446.5	0448	1				IIIG
			CULG				0448.5	0451.5	1	0448	0452	2	0449	0451	1	IIIG,V
			CULG							0453		1				IIIB
			CULG							0457.5	0500	1				IIIG,V
			CULG				0502.5	0506.5	1	0502.5	0506.5	2	0504	0505	1	IIIGG
	0501	1026	WEIS							0502.5	0506.1	2				IIIGG
			WEIS							0508.5	1712.1	2				IS,DC,CONT
			CULG				0541	0552	1	0540	0556	1				CONT
			CULG				0558	0604	1	0558	0604	2				IIIGG,V
			WEIS							0558.5	0600.5	2				IIIGG
			CULG							0606.5	0608	1				IIIG
			CULG							0630	0710	1				CONT
			WEIS							0922.8	0924.5	1				IIIG
			WEIS							0948.5	0948.6	1				IIIB
	1130	2400	BOUL										1205	2400	2	CONT
	1234	2408	HARV				1236	2150	1	1234	2400	1				I,DC
	0921	2359	SGMR										1255.2	1256.6	1	III
			WEIS							1255.3	1255.4	1				IIIB
			SGMR										1448.2	1448.6	1	III
			WEIS							1626.8	1627.1	1				IIIG
			SGMR										1626.9	1627.3	1	III
			HARV							1627	2059	1	1627	2059	1	IIIN
			WEIS							1651.7	1656.2	1				IIIG
			SGMR										1651.8	1655.2	2	V
			HARV				1652	1655	2	1652	1656	2	1652	1656	2	IIIGG
			SGMR										1749.9	1750.6	1	III
			SGMR										1750.6	2359.0	1	CONT
			HARV							1916	1919	1	1916	1919	1	IIIG
			HARV				2017	2023	2	2015	2023	2	2015	2018	2	IIIGG

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MAY 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
20	2029	2400	CULG				2046.5	2048	2	2046.5	2048	2	2047	2047.5	1	IIIG
			CULG				2048	2400	1	2048	2400	2				IS,CONT
			CULG							2049	2400	1				IIIS
			HARV				2147	2148	3	2147	2148	3	2147	2148	3	IIIG,V
			SGMR										2147.1	2147.8	2	III
			CULG							2336	2337.5	1				IIIG
			CULG							2339	2340.5	1				IIIG
21			CULG							0000	0708	1				IIIS
	0000	0726	CULG							0000	0710	2				IS,CONT
	0000	0135	HARV							0000	0135	1				I,DC
	0000	0230	BOUL										0000	0140	2	CONT
			CULG							0218.5		1				IIIB
			CULG							0309.5	0311.5	1				IIIG
			CULG							0314.5	0323.5	2				IIIGG
			CULG				0359.5	0402	1	0359.5	0403.5	2				IIIGG
			CULG							0520	0521.5	1				IIIG
			CULG							0523.5	0525	1				IIIG
			CULG							0635	0637.5	1				IIIGG
			CULG				0639	0640	1	0639	0641	1				IIIGG
			CULG							0652		1				IIIB
	0653	1851	WEIS							0911.9	0914.3	2				IIIGG
			WEIS							0926.8	0927.9	1				IIIG
	0920	2400	SGMR										1031.1	2359.0	2	IV
	1130	2400	BOUL										1150	1745.0	2	CONT
	1235	2400	HARV							1235	2400	1				IC
			HARV							1529	2055	1	1529	2055	1	IIIN
			HARV							1639	1644	1	1639	1644	1	IIIGG
			WEIS							1639.5	1639.9	1				IIIG
			WEIS							1642.9	1643.1	1				IIIG
			WEIS							1742.1	1742.5	1				IIIG
			HARV							1745	1746	2	1745	1746	2	IIIG
			BOUL										1745.0	2400	2	CONT
	2028	2400	CULG				2048	2335	1	2048	2400	2				IS,CONT
			CULG				2054	2054.5	1	2054	2055.5	1				IIIG
			CULG							2054	2400	1				IIIS
			CULG				2133.5	2400								IIIN,W
			HARV				2148	2152	1	2149	2153	3	2150	2153	3	IIIGG
			SGMR										2149.8	2201.0	2	IIIG
			CULG				2150	2152	1	2148.5	2153.5	2	2150	2152	1	IIIGG
			HARV							2159	2201	2	2159	2201	2	IIIGG
			CULG				2200	2201	1	2159	2201	2	2200	2201	1	IIIG
22	0000	0720	CULG							0000	0648	1				IIIS
			CULG							0000	0708	2				IS,CONT
	0000	0135	HARV							0000	0134	1				I
	0000	0230	BOUL							0000.0	0030.0	2	0000.0	0030.0	2	CONT
			BOUL										0030.8	0245	2	CONT
			CULG				0536		2	0536		2				IIIB
	0455	1332	WEIS							0833.2	0833.5	1				IIIG,N
	1130	2400	BOUL										1215	2400	1	CONT
	1231	2400	HARV							1231	1800	1				I
	0919	2401	SGMR										1456.9	1457.3	1	III
			HARV							1653	1654	2	1653	1654	2	IIIG
	1345	1840	WEIS							1653.3	1653.8	1				IIIG
			SGMR										1653.4	1654.0	2	III
			HARV							1704	1709	1	1704	1709	1	IIIG
			SGMR										1704.0	1736.4	2	IIIG
			WEIS							1705.8	1708.5	1				IIIG
			WEIS							1721.6	1722.1	2				IIIG
			HARV							1722	1724	2				IIIG
			HARV				1731	1732	2	1729	1741	2	1729	1736	2	IIIGG
			WEIS							1731.4	1736.8	2				IIIG
			HARV							1743	1744	1	1743	1744	1	IIIG
			HARV							1800	2400	1				IN
			SGMR										1858.8	1905.4	2	IIIG
	2028	2400	CULG							2058	2400	1				IS
			CULG							2101	2400					IIIN,W
			CULG							2101.5	2102	1				IIIG
			CULG							2119.5		1				IIIB
			CULG							2217	2218.5	2				IIIGG,V
			SGMR										2217.4	2217.6	1	III
			HARV				2218	2219	2	2217	2218	2				IIIGG
23	0000	0230	BOUL										0000	0150	1	CONT
	0000	0729	CULG							0000	0705	1				IS
			CULG							0000	0642					IIIN,W
	0000	0135	HARV							0014	0133	1				IN
			CULG							0031.5		1				IIIB
			CULG							0126.5	0127	1				IIIG
			CULG							0245.5	0247	2				IIIG
			CULG							0303	0304	1				IIIG
			CULG							0305		2				IIIB
			CULG							0309	0309.5	2				IIIG
			CULG				0330.5	0331	1	0330	0331	1				IIIG,V
			CULG							0332	0333	1				IIIG
			CULG							0501.5	0502.5	1				IIIG
	0501	1847	WEIS							0531.8	0535.7	3				IIIGG
			CULG				0532.5	0535.5	1	0531	0536	2	0533	0534	1	IIIGG,V
			CULG				0627	0628	1	0625.5	0628	2				IIIG,V

SOLAR RADIO EMISSION
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MAY 1973

MAY 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
23			WEIS							0627.1	0627.6	2				IIIG
			CULG							0640	0641	2				IIIG,U
			WEIS							0640.8	0640.7	1				IIIG
	0919	2402	SGMR													
	1130	2400	BOUL										1309.8	1310.5	1	III
			BOUL										1433.6	1433.8	1	III
	1231	2400	HARV							1832	1833	2				IIIGG
			HARV							1949	1952	1	1949	1952	1	IIIG
			BOUL							1949.1	1949.9	1	1949.1	1949.9	1	III
			HARV							2045	2046	2	2045	2046	2	IIIG
	2029	2400	CULG							2045.5	2400					IIIN,W
			CULG							2129.5	2131	1				IIIG
			CULG							2138	2139.5	1				IIIG
			HARV							2138	2139	1	2138	2139	1	IIIG
			BOUL										2138.2	2139.8	1	IIIG
			HARV							2143	2144	1				IIIG
			CULG							2143	2144	1				IIIG
			BOUL										2147.7	2148.0	1	IIIG
			CULG				2329		1	2329		1				IIIB
			CULG							2343	2344	1				IIIG
24	0000	0729	CULG							0000	0652					IIIN,W
	0000	0135	HARV													
	0000	0230	BOUL										0016.6	0016.7	1	III
	0501	0635	WEIS													
	0644	1848	WEIS													
	1130	2400	BOUL										1523.0	1523.2	1	III
	0918	2403	SGMR										1523.4	1523.7	1	III
			BOUL										1612.7	1612.8	1	III
	1231	2400	HARV							1758	1753	1				IIIGG
			HARV				1906	1907	1	1906	1907	2				IIIG
	2027	2400	CULG							2105.5	2330.5					IIIN,W
			CULG							2114.5	2250					IN,W
25	0000	0136	HARV													
	0000	0230	BOUL													
	0000	0729	CULG							0055	0118					IS,W
	0501	1315	WEIS													
	0917	2404	SGMR													
	1230	2400	HARV													
	1321	1849	WEIS													
	1130	2400	BOUL										1724.5	1724.8	1	III
	2029	2400	CULG							2058.5	2347	1				IS
			CULG							2119		1				IIIB
			CULG							2305						IIIB,W
26	0000	0230	BOUL													
	0000	0137	HARV													
	0000	0729	CULG				0034.5	0216								IN,W
	0501	1850	WEIS													
			CULG							0549	0645					IN,W
	0916	2405	SGMR													
	1231	2400	HARV													
	1130	2400	BOUL										1540.8	1640.0	1	CONT
	2030	2400	CULG							2058.5	2350	1				I
			CULG							2116.5	2400	1				IIIS
			BOUL										2117.7	2117.8	1	III
			BOUL							2150.5	2150.7	1	2150.5	2150.7	1	III
			BOUL							2154.1	2154.2	1	2154.1	2154.2	1	III
			BOUL							2156.3	2156.7	1	2156.3	2156.7	1	IIIG
			BOUL							2214.6	2214.7	1	2214.6	2214.7	1	III
			BOUL							2218.4	2218.5	1	2218.4	2218.5	1	III
			BOUL							2249.1	2249.2	1				III
			BOUL							2256.7	2256.8	1	2256.7	2256.1	1	III
			BOUL							2314.2	2314.3	1				III
			BOUL										2354.9	2354.7	1	III
27	0000	0729	CULG							0000	0030	1				IIIS
			CULG							0017	0018	1				IIIG
	0000	0230	BOUL							0017.2	0017.6	2	0017.2	0017.6	2	III
			BOUL							0029.7	0029.8	1	0029.7	0029.8	1	III
			BOUL							0040.9	0041.0	1	0040.9	0041.0	1	III
			CULG							0041		1				IIIB
			CULG							0050.5	0052	1				IIIG
			BOUL							0050.7	0050.8	1	0050.7	0050.8	1	III
			BOUL							0051.4	0051.5	1	0051.4	0051.5	1	III
	0000	0130	HARV							0055	0103	2	0056	0058	2	IIIGG
			CULG							0055	0104	2	0055	0058	1	IIIGG
			BOUL							0055.1	0104.5	3	0055.1	0104.5	3	IIIGG
			CULG							0341	0343	1				IIIG
	0501	0610	WEIS													
			CULG				0652.5	0653	1	0653	0654	1				IIIG
			CULG							0701		1				IIIB
	0958	1851	WEIS							1051.2	1051.4	1				IIIB
	1130	2400	BOUL							1255.8	1650.0	1	1255.8	1650.0	1	CONT
	1231	2400	HARV							1440	1645	1				I
	0916	2406	SGMR										1517.9	1522.1	1	IIIG
			WEIS							1521.2	1521.7	1				IIIG
			SGMR										1536.8	1537.1	1	III
			HARV				1606	1608	2	1606	1609	3	1606	1609	3	IIIGG,V

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MAY 1973

MAY 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
27			BOUL							1606.0	1609.2	3	1606.0	1609.2	3	III
			SGMR										1606.2	1609.0	3	V
			WEIS							1606.2	1608.1	2				IIIGG
			HARV							1615	1616	2	1615	1616	2	IIIG
			BOUL							1615.0	1616.0	3	1615.0	1616.0	3	III
			SGMR										1615.3	1616.3	1	III
			WEIS							1615.5	1616.0	1				IIIG
			BOUL							1644.6	1647.6	3	1644.6	1647.6	3	III
			WEIS							1644.7	1647.1	2				IIIG
			SGMR										1644.9	1648.6	3	V
			HARV							1645	1742	1				IN
			HARV							1645	1648	3	1645	1648	3	IIIGG,V
	2030	2400	CULG							2126.5	2128	1				IIIG
			BOUL							2126.8	2127.3	2	2126.8	2127.3	2	IIIG
			HARV							2127	2128	2	2127		1	IIIG
			SGMR										2127.8	2127.3	1	III
			HARV							2151	2157	1	2153	2155	1	IIIGG
			CULG							2151	2156.5	1				IIIGG,U
			BOUL							2151.2	2151.3	1	2151.2	2151.3	1	III
			BOUL							2152.5	2156.3	1	2152.8	2156.3	1	IIIGG
			CULG							2218	2226	2				IIIGG
			BOUL							2218.3	2218.4	1	2218.3	2218.4	1	III
			BOUL							2220.7	2224.7	2	2220.7	2224.7	2	IIIG
			HARV							2221	2225	1	2221		1	IIIGG
28	0000	0138	HARV													
	0000	0729	CULG							0056.5	0059.5	1				IIIG
	0000	0230	BOUL							0056.9	0057.1	2	0056.9	0057.1	2	III
			BOUL							0059.0	0059.1	1	0059.0	0059.1	1	
			CULG							0124.5	0125.5	1				IIIG
			CULG							0303	0418.5	1				IS
			CULG							0421	0421.5	1				IIIG
	0501	1632	WEIS													
			CULG				0535.5	0536.5	1	0535.5	0537	1				IIIG
			CULG							0633	0634	1				IIIG
	0916	2406	SGMR													
	1130	2400	BOUL													
	1231	2400	HARV													
	1635	1856	WEIS													
	2030	2400	CULG							2100	2132					IW
29	0000	0729	CULG													
	0000	0138	HARV													
	0000	0230	BOUL													
	0501	1858	WEIS													
	0915	2407	SGMR													
	1130	2400	BOUL													
	1231	2400	HARV													
	2030	2400	CULG													
30	0000	0729	CULG				0101.5	0102	1	0101	0105.5	1				IIIG
	0000	0139	HARV							0102	0104	1				IIIG
	0000	0230	BOUL							0103.8	0211.7	1	0103.8	0211.7	1	IIIN
			HARV							0114	0117	1				IIIG
			CULG				0114	0117.5	1	0114	0117.5	1				IIIG,U
			CULG							0132	0135	2	0133	0134.5	1	IIIGG,V,U
			HARV				0133	0134	2	0133	0134	2	0133	0134	2	IIIGG
			BOUL							0133.0	0134.6	3	0133.0	0134.6	3	III
			CULG							0136.5	0139.5	1				IIIG
			CULG							0141	0141.5	1				IIIG
			CULG							0147	0150	1				IIIGG
			CULG							0151.5		1				IIIB
			CULG							0200		1				IIIB
			CULG							0202	0203.5	1				IIIG
			CULG							0209		1				IIIB
			CULG							0211	0212	2				IIIG,U
			CULG							0215	0216	1				IIIG
			CULG							0245.5		1				IIIB
			CULG				0247.5	0248.5	1	0247.5	0249	1				IIIGG,V
			CULG				0317	0320.5	1	0317	0322	1				IIIGG,U
			CULG							0521	0522	1				IIIG
			CULG				0607.5	0608.5	1	0607.5	0609	1				IIIG
	0501	0905	WEIS							0608.3	0610.4	1				IIIG
			CULG				0610	0610.5	1	0610	0611	1				IIIG
			CULG							0640.5	0641.5	1				IIIG
			CULG							0650	0651.5	1				IIIG
			CULG				0653.5	0654.5	1	0653.5	0655	1				IIIGG
			WEIS							0653.5	0654.6	1				IIIGG
			CULG				0657	0658.5	1	0657	0658.5	1				IIIG
			WEIS							0657.1	0657.6	2				IIIG
	0909	1900	WEIS							0912.9	0914.2	3				IIIG
	0914	2406	SGMR										0913.4	0913.7	1	III
	1238	2408	HARV							1617	1618	3	1617	1618	3	IIIG
			SGMR										1617.0	1617.9	2	III
	1130	2400	BOUL							1617.0	1617.8	2	1617.0	1617.8	2	IIIG
	2217	2400	CULG				2318.5	2319	1							IIIG
31	0000	0649	CULG													
	0000	0230	BOUL													
	0000	0139	HARV													

SOLAR RADIO EMISSION
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MAY 1973

MAY 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
31	0656	0730	GULG													
	1015	1900	WEIS													
	1130	2400	BOUL										1352.1	1352.3	1	III
			BOUL							1710.4	1710.6	1				III
	1231	2400	HARV							1804	1806	2	1804	1806	2	IIIG
			BOUL										1804.5	1805.6	1	III
	0909	2410	SGMR										1804.8	1806.1	1	III
			BOUL										1813.3	1813.6	1	III
	2030	2400	GULG													

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst	RS = Reverse slope burst
G = Small group (< 10) of bursts	DP = Drifting pairs
GG = Large group (> 10) of bursts	DC = Drifting Chains
C = Underlying continuum (particularly with type I)	H = Herringbone
S = Storm in the sense of intermittent but apparently connected activity	W = Weak
	P = Pulsations
N = Intermittent activity in this period	CONT = Continuum
U = U-shaped burst of Type III	UNCLF = Unclassified activity

Note: From May 3 through 18 the Harvard Radio Astronomy Station, Fort Davis, Texas, had a receiver in operation covering the band 2000-4000 MHz, as well as its regular equipment covering the band 10-2000 MHz.

SELECTED SOLAR EVENTS

MAY 1973

Culgoora

UT Date 1973, MAY	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions: Central Dist. ($R_\odot$)	Positions: Position Angle (Deg.)	Polarization	Intensity (1-3)		
1	0237	0238	160	1.1	240	0	3	IIIG	Outburst: Multiple type II bursts, followed by IV persisting with decreasing intensity to end of observations.
				1.1	290				
	0241	0247	160	1.3	250	0	3	II	
				1.2	280				
				1.4	230				
			80	1.8	280	0	3	II	
				1.6	320				
				2.0	230				
	0250	0440	160	1.4	230	0	1-2	IV	
			80	2.0	240				
2	0033	0035	160	1.2	40	0	3	IIIG, V	
			80	1.5	40				
3	0025	0030	160	1.0	40	0	3	IIIGG, V	In each case second position is for type V
				1.0	0				
			80	1.3	50				
				1.3	0				
19	2241	2249	160	0.3	80	0	2	IIIGG, V	Complex source structure
			80						
	2249	2255	160	0.3	80	0	2	II	
				1.0	120				
			80	0.3	80				
				1.2	120				
19/20	2300	0510	160	0.2	80	R	1-2	IV	
			80	0.4	0				
23	0244	0247	160	0.8	210	0	3	IIIG	
			80	1.0	220				
30	0133	0135	160	0.9	300	0	3	IIIGG, V, U	Other III's during day from the first source position at both frequencies.
				0.9	0				
			80	1.0	300				
				1.1	350				

Days without Heliograph observations: .....

COSMIC RAY INDICES

(Neutron Monitors)

MAY 1973

May 1973	THULE DAILY AVERAGE COUNTS PER HOUR	DEEP RIVER DAILY AVERAGE COUNTS PER HOUR	CALGARY DAILY AVERAGE COUNTS PER HOUR	SULPHUR MT. DAILY AVERAGE COUNTS PER HOUR	CLIMAX DAILY AVERAGE COUNTS PER HOUR	DALLAS DAILY AVERAGE COUNTS PER HOUR
1	4437.8	Data not available at time of publication.	11522.9	-- (0)	Data not available at time of publication.	6169.0
2	4434.4		11405.6	-- (0)		6141.4
3	4427.8		11429.9	-- (0)		6170.2
4	4424.8		11397.0	-- (0)		6169.8
5	4458.8		11459.2	-- (0)		6179.8
6	4473.5		11515.8	-- (0)		6168.0
7	4375.3		11335.3	-- (0)		6099.6
8	4317.3		11149.8	-- (0)		6039.8
9	4310.0		11129.2	8286.7(6)		6036.2
10	4329.2		11174.3	8316.3		6045.1
11	4365.5		11267.1	8365.8		6069.8
12	4389.8		11310.8	8417.0		6101.3
13	4391.6		11294.9	8413.0		6109.3
14	4306.2		11033.6	8202.4		6041.5
15	4270.1		10924.3	8118.8		5977.8
16	4249.0		10856.4	8083.3		5958.4
17	4226.2		10852.0	8081.7		5975.8
18	4241.7		10907.8	8148.0		6004.1
19	4270.1		11023.0	8252.0		6051.3
20	4311.3		11122.2	8335.1		6093.4
21	4289.4		11041.3	8247.4		6062.8
22	4302.3		11134.8	8318.7		6099.8
23	4354.6		11278.7	8410.2		6138.7
24	4395.2		11398.4	8523.7		6178.5
25	4426.1		11503.0	8589.6		6225.5
26	4470.1		11543.8	8302.7		6249.8
27	4533.5		11744.7	8297.8		6326.5
28	4525.8		11710.0	8254.1		6300.1
29	4487.6		11651.3	8229.8		6258.0
30	4491.1		11622.9	8354.4		6237.8
31	4519.4		11634.7	8560.7		6251.0

( ) Number of hours for which data are available if less than 24 (or number of section hours if less than 40 for Climax).

Churchill and Dallas Super Neutron Monitors, Scaling Factors 120.

Deep River Super Neutron Monitor, Scaling Factor 300.

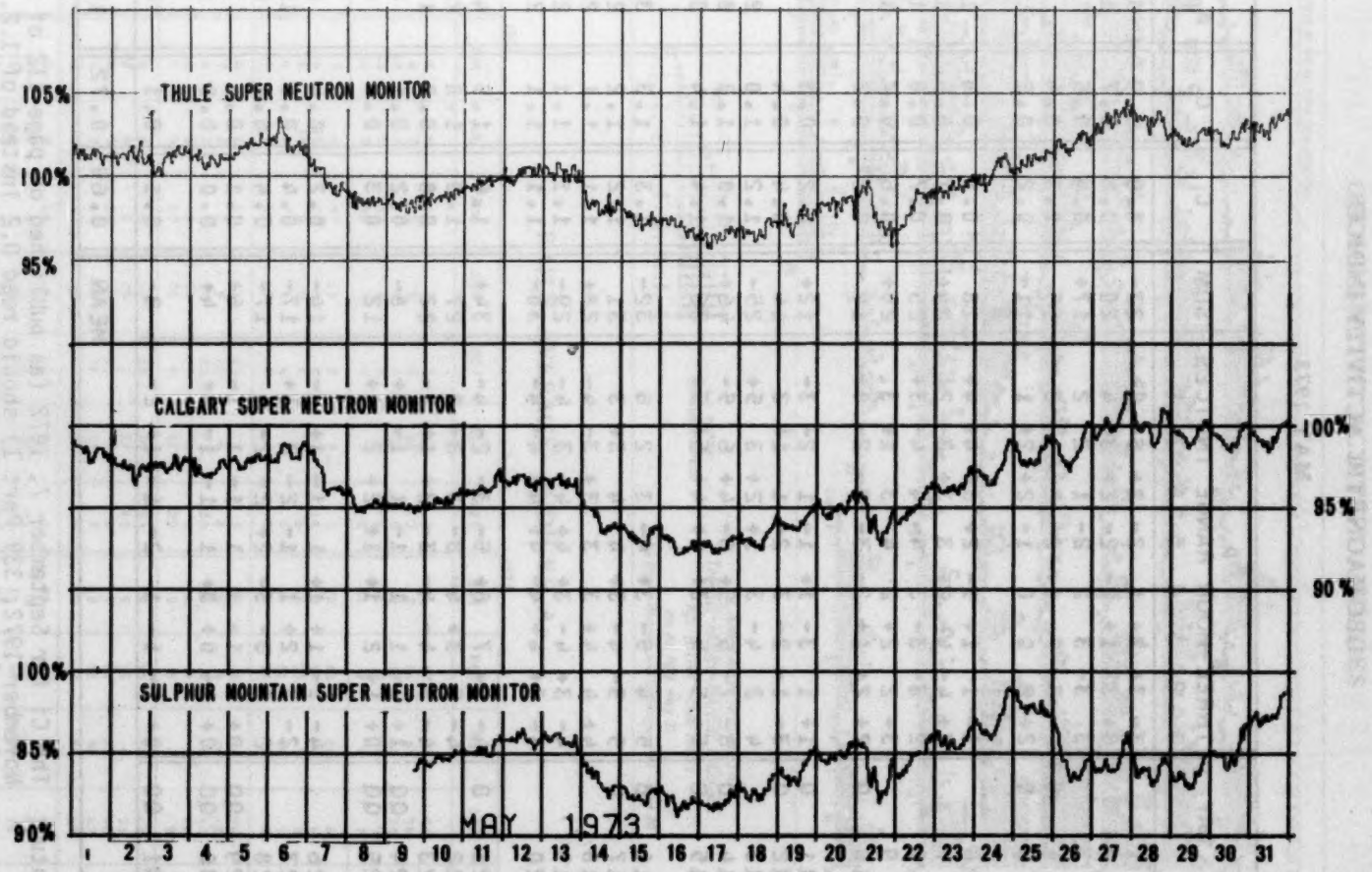
Thule, Calgary and Sulphur Mountain Super Neutron Monitors, Scaling Factors 100.

Climax IGC Station B305, Scaling Factor 100.

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)

MAY 1973



Note: Heavy snowfall on Sulphur Mountain is believed to have caused the decrease in counting rates at this station beginning May 26, 1973.

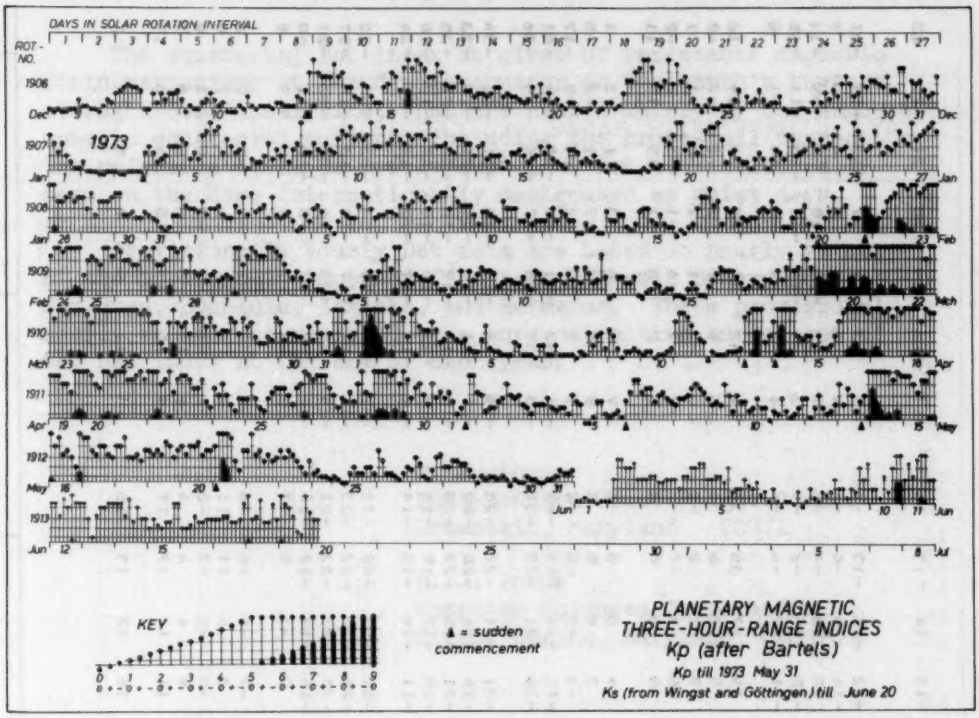
GEOMAGNETIC ACTIVITY INDICES

MAY 1973

DAY		K_p THREE-HOUR RANGE INDICES								SUM	C_i	C_p	A_p
		1	2	3	4	5	6	7	8				
1		3-	3+	2+	1	2-	2+	5-	5-	23-	0.9	0.9	17
2		3+	3	1+	2-	2-	2+	3-	4	20	0.6	0.7	12
3		3	3-	3	2	2-	1	2	2	17+	0.4	0.5	9
4	Q	2	3-	2-	1+	2-	2-	1	3	15	0.3	0.4	8
5	Q	2+	2	0	0	1-	2+	2+	1	11-	0.2	0.2	5
6		1-	1	1+	1-	2+	3+	4+	4+	18	0.8	0.8	13
7		3+	4-	4-	2+	3	3+	3-	2+	24+	0.7	0.9	16
8		2	3-	3-	3	4-	4	4-	3+	25	0.7	0.9	17
9		3-	2	2+	2	4	3	1+	3	20+	0.6	0.7	12
10	Q	2+	2+	1+	2-	3-	2-	2-	0+	14	0.2	0.3	7
11	Q	1+	1	3-	1+	1-	1	2-	3-	12+	0.2	0.3	6
12	Q	3-	1-	2-	3	2-	1	1+	2	14	0.4	0.4	7
13		4	2	4-	3	1+	2+	3	5+	25-	1.2	1.0	20
14	D	8-	7-	6	5+	6-	4+	6	5-	46+	1.8	1.8	80
15	D	5-	5-	4	3+	4+	4+	5+	5+	36	1.4	1.4	37
16	D	5	4	5-	3+	4-	3	2	6	32-	1.3	1.3	32
17	D	5	5-	4-	3+	4	4	3+	3	31	1.2	1.2	27
18		4+	4	4+	3	3	3+	3-	4-	28+	1.1	1.1	22
19		4-	3+	4-	3+	4+	4-	3	4-	29-	1.1	1.1	21
20		4-	3+	4-	4-	4+	4-	4-	4-	30-	1.1	1.1	23
21	D	4-	5-	7	6+	5-	3-	2-	4-	34+	1.6	1.5	46
22		4-	5	3+	4-	3-	3	3-	3	27	1.0	1.0	20
23		4-	3	4-	4-	3-	2+	1+	3-	23	0.8	0.8	15
24	QQ	1+	2-	1	1	1-	1	1-	0+	8-	0.2	0.1	4
25	QQ	0+	1+	2	1+	1+	2+	2	1+	12	0.3	0.3	6
26		4-	3-	1+	1+	1	1-	1+	2-	14-	0.2	0.4	8
27		2-	3	2+	1	1-	2-	3	3+	17-	0.4	0.5	10
28		2	2	3-	3-	2+	2+	2-	1	17-	0.4	0.4	8
29	QQ	0+	1	1-	1	1	1-	1	1-	6+	0.1	0.1	3
30	QQ	0+	1-	0+	0+	1	1-	1-	0+	4+	0.0	0.0	3
31	QQ	0+	1-	1-	1	2-	1+	1+	2-	9-	0.1	0.1	4
										MEAN	0.69	0.72	17

Erratum: The Ci for September 7, 1972 (as published on page 112 of SGD, November 1972, 339 Part I) should read 0.2 instead of 1.2. The mean for the month is 0.59 instead of 0.62.

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES Ap

	1972							1973				
DAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	6	5	10	5	7	98	6	11	17	22	91	17
2	6	7	5	6	5	42	5	2	14	40	54	12
3	12	7	5	5	4	13	6	2	16	14	26	9
4	13	4	132	6	7	6	4	11	7	4	9	8
5	11	3	182	5	2	3	2	21	9	6	7	5
6	7	4	47	10	2	7	3	20	15	28	4	13
7	8	10	20	5	8	7	10	8	14	8	4	16
8	6	10	9	9	4	7	6	15	25	7	8	17
9	4	6	74	8	4	7	4	16	21	11	7	12
10	4	7	18	15	6	4	2	28	11	8	4	7
11	4	6	17	11	19	7	3	24	8	8	24	6
12	3	7	7	5	21	6	8	25	9	14	3	7
13	4	3	5	53	21	4	30	16	4	5	46	20
14	10	3	9	54	26	4	9	8	7	4	57	80
15	11	6	10	24	8	17	29	9	8	3	9	37
16	8	8	6	19	12	31	33	8	10	12	60	32
17	62	8	6	26	2	12	13	5	16	6	51	27
18	126	5	13	14	11	9	8	3	11	20	46	22
19	19	8	14	6	34	11	7	10	10	82	42	21
20	9	5	15	4	14	27	4	29	9	80	46	23
21	5	3	15	2	16	9	2	22	49	58	42	46
22	12	10	8	4	13	13	14	5	46	53	44	20
23	11	10	3	13	18	11	30	13	48	50	25	15
24	14	17	2	16	11	5	13	22	54	49	14	4
25	6	33	5	6	6	8	4	20	31	50	14	6
26	10	17	18	7	8	14	5	20	34	32	28	8
27	17	9	25	8	7	11	2	33	44	28	26	10
28	13	5	8	8	11	12	4	33	20	22	26	6
29	11	4	8	25	21	9	15	22		16	59	3
30	3	4	6	8	20	4	19	15		15	18	3
31		6	7		29		13	6		33		4
MEAN	14	8	24	13	12	14	10	16	20	25	30	17

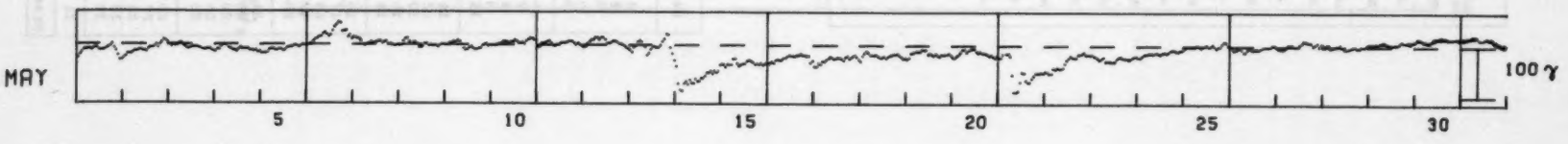
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

MAY 1973

NASA/GODDARD SPACE FLIGHT CENTER

DAY	(Time-UT) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-26	-20	-15	-10	-10	-9	-9	-11	-8	-5	-7	-11	-12	-11	-10	-8	-6	-3	1	-7	-13	-22	-31	-30
2	-26	-23	-18	-18	-18	-15	-13	-13	-11	-10	-12	-13	-14	-9	-6	-6	-4	0	-6	0	4	9	8	4
3	0	-4	1	-3	-2	2	3	-1	-4	-7	-8	-6	-5	-5	-4	-6	-7	-9	-10	-10	-8	-9	-11	-13
4	-14	-9	-10	-4	0	-1	-2	-7	-8	-11	-12	-14	-10	-6	-8	-9	-3	-9	-11	-12	-13	-11	-15	-14
5	-17	-17	-17	-16	-10	-9	-8	-11	-11	-9	-10	-13	-11	-7	-6	-5	-4	-2	-2	-4	-4	-1	0	-1
6	-1	0	2	6	10	12	15	16	21	24	20	16	19	27	35	39	44	42	26	27	28	14	18	11
7	14	13	12	11	7	0	-2	1	2	5	3	3	5	7	6	3	5	6	0	1	-1	-2	-2	-1
8	-2	-1	7	12	13	6	1	5	5	1	-5	-5	-3	2	2	-2	0	-2	-1	-2	-4	-1	1	1
9	0	0	3	4	6	5	8	6	0	-7	-10	-9	-6	-3	-7	-9	-9	-7	-6	-1	1	2	-2	0
10	0	-1	-1	1	2	4	7	6	5	4	6	6	9	8	4	3	5	2	8	11	13	13	11	9
11	-4	-3	4	4	5	7	8	3	-1	-2	1	1	4	5	5	5	7	8	6	3	1	3	1	-2
12	-4	-3	3	6	10	11	15	15	10	15	15	10	3	4	5	8	8	6	3	2	1	-2	-5	-7
13	-10	-14	-5	-2	6	9	7	-1	-4	-20	-16	-8	-3	-3	-5	-4	-1	7	12	22	20	-5	-17	-30
14	-42	-76	-88	-90	-75	-71	-77	-68	-74	-75	-66	-71	-70	-64	-65	-60	-54	-53	-51	-56	-50	-54	-51	-39
15	-37	-38	-43	-37	-38	-38	-27	-26	-36	-41	-38	-36	-36	-31	-29	-31	-33	-37	-36	-37	-35	-39	-36	-33
16	-34	-35	-32	-35	-29	-28	-29	-29	-25	-25	-22	-19	-21	-21	-22	-20	-19	-17	-19	-20	-21	-21	-34	-30
17	-42	-42	-35	-37	-31	-32	-28	-25	-22	-24	-26	-25	-24	-24	-26	-29	-23	-21	-26	-24	-21	-19	-23	-28
18	-32	-21	-15	-11	-14	-19	-19	-19	-18	-21	-23	-24	-21	-25	-22	-20	-18	-17	-17	-16	-19	-22	-26	-24
19	-27	-24	-15	-14	-13	-11	-12	-12	-7	-8	-8	-17	-15	-17	-19	-16	-19	-21	-18	-18	-17	-17	-15	-19
20	-23	-24	-20	-17	-13	-7	-7	-13	-9	-7	-5	-6	-11	-14	-12	-14	-14	-15	-17	-20	-18	-21	-24	-20
21	-23	-24	-17	0	-16	-16	-21	-58	-91	-92	-89	-71	-52	-53	-68	-72	-71	-64	-59	-54	-53	-53	-52	-53
22	-50	-51	-55	-54	-44	-46	-43	-44	-45	-43	-34	-28	-24	-20	-22	-23	-23	-17	-17	-15	-13	-18	-17	-18
23	-17	-19	-21	-24	-27	-25	-22	-30	-36	-30	-31	-32	-30	-25	-22	-21	-23	-25	-25	-26	-26	-23	-21	-21
24	-22	-23	-21	-17	-16	-15	-14	-14	-15	-14	-13	-15	-16	-13	-12	-14	-12	-9	-7	-8	-10	-11	-9	-8
25	-6	-3	0	-2	-2	-2	-1	1	0	-3	-1	1	2	-1	0	3	0	-4	-2	0	5	9	8	2
26	-1	-3	-8	-7	-5	-3	-6	-12	-11	-6	-4	-6	-7	-6	-6	-6	-4	-2	-1	-1	-1	0	2	2
27	-1	-4	-4	-6	-5	-2	3	3	3	1	-1	0	3	6	11	11	9	8	7	1	4	7	0	5
28	4	0	4	3	-3	-1	0	1	1	3	0	-5	-5	-5	-3	-2	-1	-1	-3	-3	0	-1	0	4
29	5	4	4	4	5	4	7	8	8	7	5	3	4	4	4	4	6	10	8	8	8	8	7	9
30	10	14	14	13	11	10	9	8	9	12	15	16	16	17	17	17	16	15	15	15	15	16	15	16
31	15	14	15	16	16	17	20	20	19	15	13	13	15	17	15	15	15	11	9	7	5	2	1	2

UNIT = GAMMAS



Provisional Hourly Values of the Equatorial Dst Index

The equatorial Dst index at given UT represents magnetic field variations at the dipole equator on the earth's surface, averaged over local time, that are caused mainly by the magnetospheric equatorial currents including the cross-tail current. The reference level of Dst is such that Dst is statistically zero on the days internationally designated as quiet days.

Provisionally hourly Dst data are based on hourly values of the horizontal component from four magnetic observatories: San Juan, Honolulu, Kakioka, and Hermanus. These provisional hourly values are replaced by a more definitive annual set of the Dst index at the end of each year.

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PRINCIPAL MAGNETIC STORMS

MAY 1973

DATE 1973 MO. DA.	STORM TIME UT START	STORM TIME UT END MO. DA. HR	OBS.	GEO-MAG. LAT.	SUDDEN COMMENCEMENT TYPE	AMPLITUDES D(°)	AMPLITUDES H(γ)	AMPLITUDES Z(γ)	C FIGURE DEGREE OF ACTIVITY	MAXIMAL ACTIVITY ON K-SCALE 0 TO 9 MO. DA.	3-HOUR PERIOD	K INDEX	RANGES D (°)	RANGES H (γ)	RANGES Z (γ)	STORM NUMBERS
05 01	1731	-- -- --	MBOR	21.3N	SC	- 0.9	+13	- 2	-	-- --	-	-	--	--	--	24
	1734	05 03 03	HYDE	7.6N	SC	- 0.2	+14	- 1	M	05 01	8	5	6	63	46	24
	1734	05 02 05	GNAN	43.2S	SC	2	9	10	M	05 01	7,8	5	14	60	80	24
	1734	05 02 05	KGLN	57.3S	SC	--	--	--	M	05 01	8	5	--	--	--	24
05 02	0136	-- -- --	MBOR	21.3N	SC	0	+14	- 2	-	-- --	-	-	--	--	--	24
	1141	-- -- --	MBOR	21.3N	SC	--	+ 7	--	-	-- --	-	-	--	--	--	24
	2121	05 03 09	MBOR	21.3N	SC	--	+31	- 3	M	05 02	8	4	--	--	--	24
05 06	1340	05 08 00	FRED	49.6N	SC *	+ 5	+ 6	- 1	M	05 06	7,8	4	20	75	20	25
										05 07	1,2,3	4				25
	1337	05 08 00	MBOR	21.3N	SC	- 0.6	+14	- 3	M	05 06	7	4	--	--	--	25
	1340	05 07 23	HYDE	7.6N	SC	- 0.3	+14	- 1	M	05 06	8	4	3	53	36	25
	1340	05 07 09	KGLN	57.3S	SC	--	--	--	M	05 06	7,8	4	--	--	--	25
05 13	053-	-- -- --	COLL	64.6N	..	..	..	..	--	-- --	-	-	--	--	--	26
	18--	05 21 15	COLL	64.6N	..	..	..	..	MS	05 13	3	7	263	1940	1110	26
										05 14	5	7				26
										05 21	3,4	7				26
	0752	05 20 14	SITK	60.0N	SC	- 3	+62	+ 7	S	05 14	1	9	110	1650	330	26
	1718	05 18 18	NEWP	55.1N	..	..	..	..	S	05 14	1	9	90	982	752	26
	1722	05 18 08	WITT	54.1N	SC	- 1	+25	0	MS	05 14	1,7	6	30	245	150	26
										05 15	7.	6				26
	17--	05 16 16	FRED	49.6N	..	..	..	..	MS	05 14	2	7	52	190	205	26
	17--	05 23 17	BOUL	49.0N	..	..	..	..	MS	05 14	1,2	7	61	185	260	26
	17--	05 16 16	IRKU	40.8N	..	..	..	..	MS	05 13	8	5	21	174	74	26
										05 14	1,4	6				26
										05 15	5,7	5				26
	1720	05 23 11	TUCS	40.4N	..	..	..	..	MS	05 14	1	7	25	200	50	26
	1721	05 15 05	SJUA	29.9N	SC	- 0.2	+ 6	--	MS	05 13	8	6	11	142	28	26
										05 14	1					26
	1230	05 15 06	MBOR	21.3N	..	..	..	..	MS	05 13	8	6	2	84	14	26
	17--	05 -- --	HONO	21.1N	..	..	..	..	MS	05 14	1	6	14	166	36	26
	17--	05 14 23	ALIB	9.5N	..	..	..	..	M	05 13	8	5	7	142	45	26
										05 14	1,4,5,7					26
	1720	05 16 02	HYDE	7.6N	..	..	..	..	MS	05 14	1,2,4	6	6	155	29	26
	1721	05 19 15	GUAM	4.0N	..	..	..	..	MS	05 14	1	6	0	160	40	26
	17--	05 14 23	ANNA	1.5N	..	..	..	..	M	-- --	-	-	6	155	81	26
	17--	05 14 23	TVAN	1.1S	..	..	..	..	M	-- --	-	-	5	183	134	26
	1646	05 20 07	APIA	16.1S	..	..	..	..	MS	05 14	1	6	7	176	41	26
	1720	05 19 16	PMOR	18.6S					MS	05 14	1	6	6	160	50	26
	21--	05 18 09	HRMN	33.3S	..	..	..	..	M	05 13	8	5	33	130	101	26
										05 14	1,4,7	5				26
										05 15	7,8	5				26
										05 16	8	5				26
										05 17	1	5				26
										05 18	1	5				26
	17--	05 16 15	GNAN	43.2S	..	..	..	..	MS	05 14	4,5	6	23	150	130	26
	21--	05 16 16	KGLN	57.3S	..	..	..	..	S	05 14	1	8	--	--	--	26
05 16	21--	05 20 09	FRED	49.6N	..	..	..	..	M	05 16	8	5				27
										05 17	1,2	5	27	115	75	27
										05 18	3	5				27
	22--	05 17 20	GNAN	43.2S	..	..	..	..	M	05 16	8	5	23	70	110	27
										05 17	4,5,6	5				27
	21--	05 20 --	KGLN	57.3S	..	..	..	..	MS	05 16	8	6	--	--	--	27
05 21	0253	05 23 13	SITK	60.0N	SC *	- 6	+61	+ 7	S	05 21	3	9	180	1340	900	28
	0252	05 21 15	NEWP	55.1N	SC *	3	40	3	S	05 21	3	9	63	651	427	28
	0252	05 22 07	WITT	54.1N	SC *	- 6 *	+25	0	MS	05 21	3	6	20	245	50	28
	0254	05 21 15	FRED	49.6N	SC *	+ 4	+43	- 7	MS	05 21	3	6	23	170	140	28
	01--	05 21 15	IRKU	40.8N	..	..	..	..	MS	05 21	2,3,4	6	21	110	105	28
	0252	05 21 16	SJUA	29.9N	SC	+ 0.5	+21	+ 6	MS	05 21	3	6	9	115	22	28
	0251	05 22 12	MBOR	21.3N	SC	- 0.2	+32	- 5	M	05 21		4	--	--	--	28
	0252	05 21 14	HONO	21.1N	SC	+ 0	+20	+08	MS	05 21	3	6	06	116	30	28
	0252	05 21 15	ALIB	9.5N	SC	- 0.4	22	- 5	MS	05 21	3	7	5	197	35	28
	0253	05 22 05	HYDE	7.6N	SC	- 0.2	+23	- 2	MS	05 21	3,4	7	5	209	26	28
	0252	05 22 11	GUAM	4.0N	SC	--	27	-08	MS	05 21	3	7	0	250	20	28
	0252	05 21 15	ANNA	1.5N	SC	- 0.5	32	11	MS	-- --	-	-	4	251	111	28
	0252	05 21 15	TVAN	1.1S	SC	0.0	29	34	MS	-- --	-	-	5	267	185	28
	0252	05 22 12	APIA	16.1S	SC	0	+18	- 8	MS	05 21	3	6	5	156	32	28
	0252	05 23 17	PMOR	18.6S	SC *	- 0.5 *	25	21	MS	05 21	3,4	6	8	210	100	28
	0252	05 21 14	HRMN	33.3S	SC *	3 *	18	14	MS	05 21	3	6	24	140	119	28
	21--	05 22 10	HRMN	33.3S	..	..	..	..	M	05 21	8	5	27	44	61	28
										05 22	1,2	5				28
	0252	05 21 15	GNAN	43.2S	SC *	- 2 *	-19 *	- 3 *	MS	05 21	3	7	23	150	160	28
	0252	05 21 15	KGLN	57.3S	SC	--	--	--	MS	05 21	3,4	6	--	--	--	28
	21--	05 22 16	KGLN	57.3S	..	..	..	..	M	05 21	8	5	--	--	--	28
										05 22	2	5				28
05 22	20--	05 23 14	NEWP	55.1N	..	..	..	..	M	05 23	1,2,3	5	25	117	134	29
	20--	05 23 17	GNAN	43.2S	..	..	..	..	MS	05 23	4	6	18	80	70	29

Reports were received from the following observatories:

College Sitka, Witteveen Newport, Fredericksburg Boulder, Irkutsk Tucson, San Juan M'Bour, Honolulu Alibag, Hyderabad Guam, Annamalainagar Trivandrum, Apia Port Moresby, Hermanus Gnangara, Port-aux-Franc.. s

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

MAY 1973

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romana)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 12 and 32. Times of ssc, si and bay-commencements are mean values. If given by ten or more stations they are underlined.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

01 1733 A: MA LG LM; B: SO WN VI AQ IK EB TL PE KS QU SZ PM HU TN; C: NI CI KG DU (si: A: NU FU FR; B: ES DB KA; C: SS)

06 1339 A: SI LG; B: SO WN MA VI FU AQ IK EB FR PE KS QU SZ PM LM; C: NI DB TL KG DU (si: C: KA SS)

13 1722 B: MA LG PE QU SZ HU; C: ES WN TL LM

21 0252 A: SI MA VI FU LG CI TL FR KS QU HU TN LM KG DU; B: ES WN NI DB AQ IK EB PE KA SZ PM; C: SS (si: A: SO)

Sudden impulses found in the magnetograms (si)

02 0137 A: LG PE; B: FU AQ EB CI QU LM; C: TL (ssc: A: MA; B: HU TN; C: IK)

02 2124 A: FU LG AQ PE QU LM; B: ES TL KA; C: SS (ssc: B: MA EB KS SZ HU; C: TN bps: B: SO WN; C: VI)

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

01 0745 - 0750 SZ

03 0832 - 0959 ES WN NI MA DB HB LG AQ EB TL QU SZ (si: A: FU? - bs: A: NU KS - bps: A: LM)

04 1305 - 1317 SO (si: C: LM)

05 1715 - 1738 HB EB TL? FR SZ HU (bp: A: PE)

11 0754 - 0802 QU (si: C: LM)

12 0920 - 0945 SZ (ssc: C: MA; si: C: WN)

17 1913 - 1920 HB

18 1547 - 1604 HU

20 0559 - 0619 SS

31 0832 - 0858 IK

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

MAY 1973

North Atlantic

MAY 1973	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC								GEOMAGNETIC INDICES		
			6-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF				K_{FR} HALF DAY		A_{FR}
			00 TO 06	06 TO 12	12 TO 18	18 TO 24	02	08	14	20	(1)	(2)	OBSERVED
01	6-	5	6-	5+	6-	6-	5	5	6	5	3	3	14
02	6-	5	5+	5o	6+	7-	5	6	6	6	3	3	13
03	7-	6	7-	6+	6+	7-	6	6	7	6	3	1	9
04	6+	6	7-	6+	6o	7-	6	6	7	6	2	2	8
05	7-	6	7-	6+	7-	6+	6	6	6	6	1	2	4
06	7-	6	7-	7-	7-	7o	6	6	6	7	1	3	11
07	6+	6	6+	6-	6+	6+	6	6	7	6	(4)	3	18
08	6+	6	6+	6-	7-	7o	6	6	6	6	3	3	17
09	6o	6	6+	6-	6o	7-	6	6	6	6	3	3	15
10	7-	5	7-	6-	7-	7-	6	6	6	6	3	2	9
11	6+	4	7-	6-	7-	7-	6	6	6	7	2	2	8
12	6+	4	6+	6o	6o	6+	6	6	7	6	2	2	7
13	6-	4	6+	5o	6-	6-	6	6	6	6	(4)	3	21
14	4o	4	4o	4-	4o	5-	6	3	4	5	(6)	(4)	52
15	4o	4	4-	3+	4+	5o	4	4	5	5	(4)	(4)	27
16	5+	4	5-	5-	6-	6-	4	5	6	5	(4)	3	27
17	5+	4	5-	4+	6+	6+	4	4	6	6	(4)	3	22
18	6-	4	6o	4+	6-	6o	5	5	5	6	(4)	3	26
19	6o	4	6+	6-	6-	6+	6	5	6	5	(4)	3	20
20	6o	5	6+	5+	6o	7o	5	5	6	6	3	3	17
21	5o	5	6+	4+	5-	6-	6	5	5	5	(5)	3	29
22	6-	5	6-	4+	6+	6+	5	5	6	6	(4)	3	16
23	6-	5	6-	4+	6+	6o	5	5	6	5	(4)	2	18
24	6o	5	6-	7-	6o	6o	5	5	7	7	1	1	3
25	7-	5	7-	7-	7-	6o	6	7	7	6	2	2	7
26	6+	4	6-	6+	7-	6+	6	6	7	7	3	1	8
27	6+	4	6o	6o	6+	7-	6	6	7	7	2	2	10
28	6+	5	6o	6+	7o	6+	7	6	6	6	3	2	8
29	7-	5	7-	7-	7o	7o	6	6	7	6	1	1	4
30	7-	6	7-	6+	6+	7o	6	6	7	7	1	1	2
31	7-	7	7-	6+	7-	7o	7	7	7	7	1	2	4

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

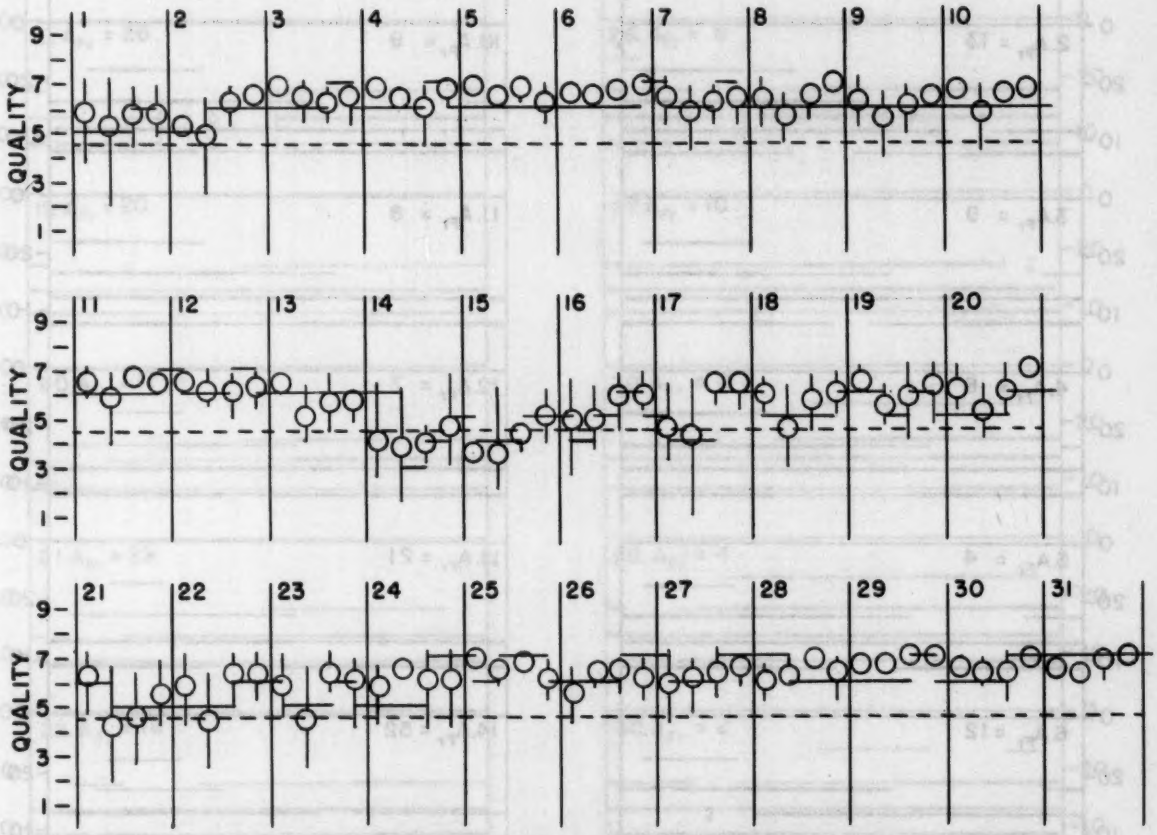
MAY 1973

North Atlantic

– Short term forecast
o Quality figure

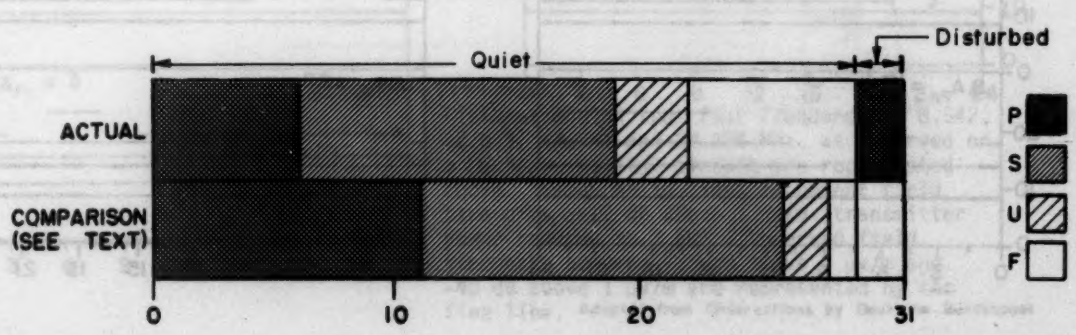
| range of reports

Day



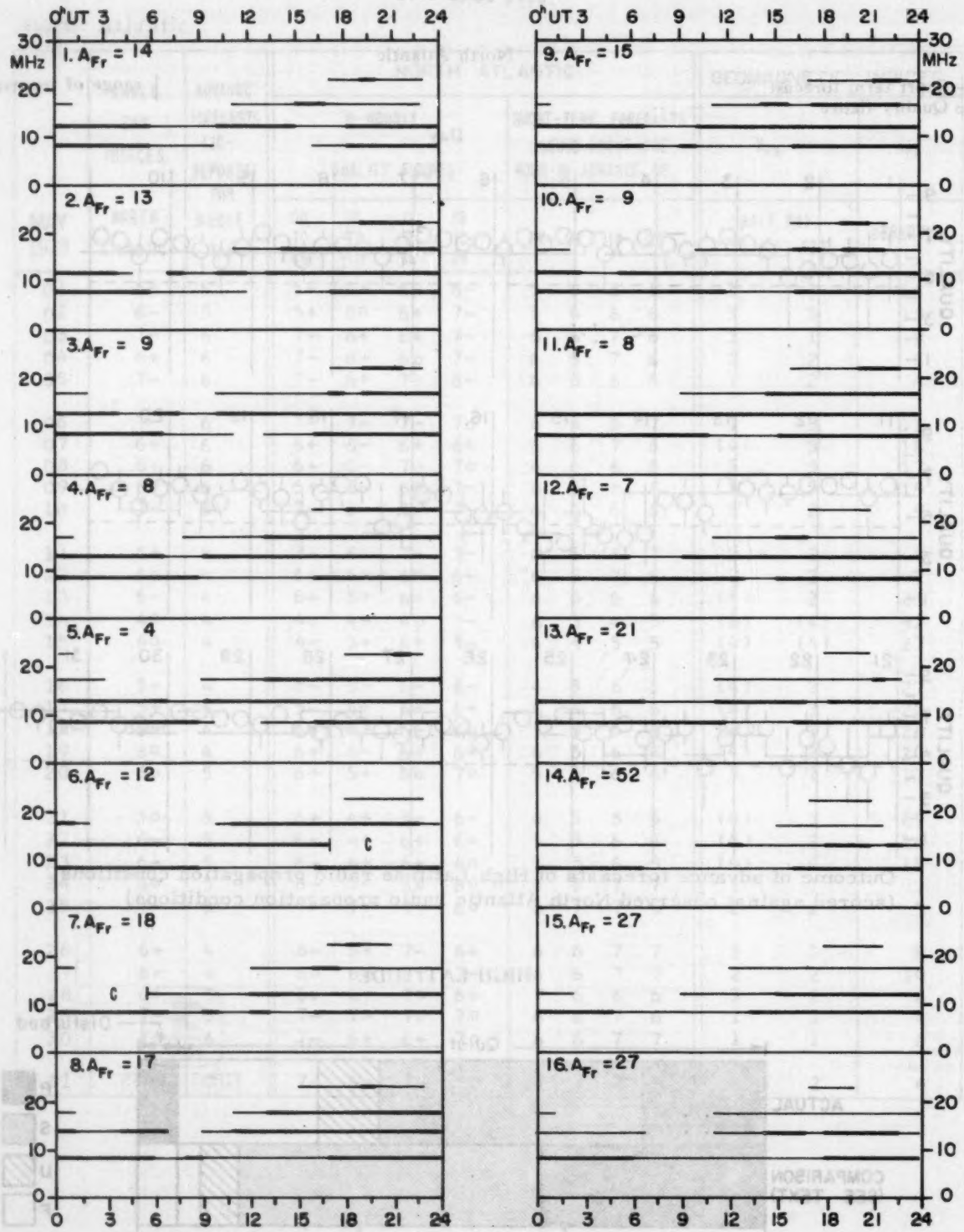
Outcome of advance forecasts of High Latitude radio propagation conditions (scored against observed North Atlantic radio propagation conditions)

HIGH LATITUDE



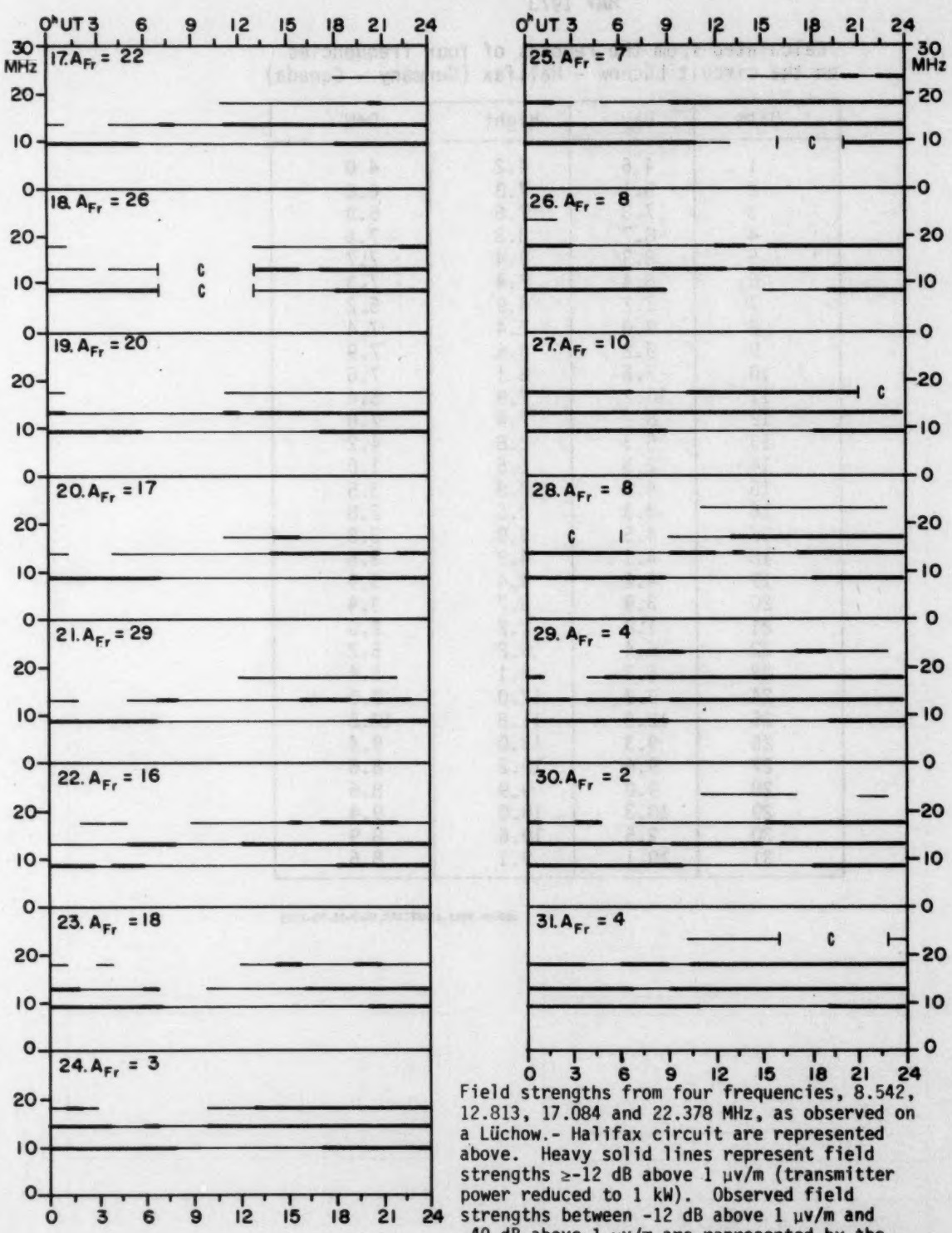
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

MAY 1973



TRANSMISSION FREQUENCY RANGES – NORTH ATLANTIC PATH

MAY 1973



Field strengths from four frequencies, 8.542, 12.813, 17.084 and 22.378 MHz, as observed on a Lüchow.- Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line. **Adapted from Observations by Deutsche Bundespost**

RADIO PROPAGATION QUALITY INDICES

MAY 1973

Calculated from the records of four frequencies
on the circuit Lüchow - Halifax (Germany - Canada)

Date	Day	Night	D+N
1	4.6	4.2	4.0
2	8.1	7.0	6.8
3	7.8	7.6	6.9
4	8.7	8.3	7.6
5	8.3	9.4	7.7
6	8.4	7.4	7.3
7	6.2	4.9	5.2
8	9.0	7.4	7.4
9	9.2	8.6	7.9
10	8.6	8.1	7.6
11	10.2	7.9	8.4
12	8.2	7.4	7.0
13	5.3	2.8	4.2
14	2.5	1.5	1.8
15	4.4	2.8	3.5
16	3.3	2.5	2.8
17	4.5	3.9	3.8
18	4.1	4.9	3.6
19	4.2	4.4	3.9
20	3.9	3.7	3.4
21	1.8	2.2	2.0
22	6.4	5.2	5.2
23	5.3	8.1	5.4
24	9.2	12.0	9.0
25	12.8	11.8	10.8
26	9.3	13.0	9.4
27	9.6	10.2	8.6
28	9.0	9.9	8.6
29	10.3	10.0	9.4
30	9.5	10.6	8.9
31	10.1	9.1	8.6

USCOMM-NOAA-ASHEVILLE,NC-7-31-73-1125